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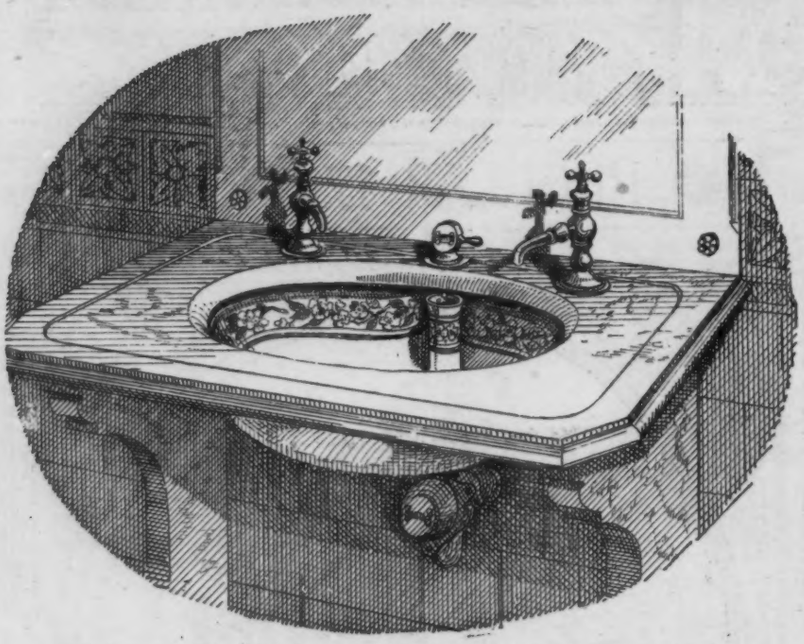

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IN the death of Dr. Thomas U. Walter, the late President of the American Institute of Architects, the profession in this country may be said to have lost the last tie which connected it with the traditions of the Classic Revival, as well as a personal presence which had for sixty years steadily maintained the dignity of the calling which he practised, and influenced for good not only his professional brethren, but the sentiment of the general public toward our art. Thomas U. Walter, LL.D., was born in Philadelphia, September 4, 1804. He chose architecture as his profession at a very early age, and was placed as a pupil with William Strickland, perhaps the most distinguished American architect of his time. It is hardly necessary to say that in those days the taste of architects was formed wholly upon Classical models, the study of English Gothic being allowed, we might say, only in a limited degree to those who wished to devote themselves to the designing of ecclesiastical buildings. Young Walter, who was naturally of a sensitive, orderly character, delighted in the elegance and purity of the antique, and studied it with such zeal and success as to make himself probably the best Classical architect who has ever lived in this country, and one of the best in any country at the time when his professional career was at its height. When he began practice on his own account, in 1830, the range of professional employment was far more limited than it is at present; and it was only upon the rare occasions of the construction of a public building, or a great private mansion, that the skill of a regularly trained architect was brought into requisition. His first important opportunity came, therefore, with his appointment as architect of the Philadelphia County Prison, which was begun in 1831. Two years later, he won the first place in the competition for the Girard College buildings, the most costly group of structures which had at that time ever been projected in the United States, with the exception of the Capitol at Washington, and devoted many years to the task of carrying out his noble design, which even now is scarcely approached in dignity and interest by anything that has since been erected in the country. His success in this commission gave him a wide-spread reputation, and in 1851 he was appointed architect of the Capitol Extension at Washington. In this capacity he accomplished the very difficult task of converting the insignificant Capitol already existing into one of the most beautiful and imposing structures in the world. To our mind, in fact, there is no building in any country which approaches the Capitol. Many are more beautiful in detail, and there are some which would be improved in effect if they could be placed on the Capitol Hill, but there are plenty of examples to show that a poor design gains little by being displayed on top of an eminence, and with all allowance for circumstances, we have yet to see any architectural work which produces upon our mind an impression to be compared with that which the Capitol gives to one who sees it for the first time from near either of the railway stations, or from the Botanical Garden. The boldness with which this great work was designed and carried out shows, to the professional observer, the consummate skill of the architect, and his confidence in his own resources. Finding the old Capitol constructed of decaying sandstone, he had it painted white, and constructed the vast wings which form the extension of white marble, selected from a quarry which furnished a stone not only of extraordinary hardness and durability, but disposed to take on with age a delicious pearly color, which, as it shows itself at present in the long colonnades, gives them an effect of supernatural purity and beauty. The dome, which completed Mr. Walter's additions to the building, although of iron, is inferior to none in outline and proportion, and consorts better than any other that we know with the mass of building which it crowns. Much as we talk to-day, and with reason, about our progress in architecture, we have nothing to show more nobly simple and well studied than this great work, and it is no slight honor to the American aptitude for the greatest of arts that one the first of the important public buildings of the country should, by the nearly unanimous opinion of critics, be still unsurpassed by any structure of its class in the world. Besides the Capitol Extension, Mr. Walter, while in Washington, designed and executed the new front of the Treasury Department, the eastern and western wings of the Patent-Office, and the extension of the Post-Office, besides the Government Hospital for the Insane. On returning to Philadelphia, after the inauguration of the new plan of committing the public architecture to an official at a small salary, Dr. Walter was appointed Professor of Architecture at the Franklin Institute, and was soon after chosen to coöperate with Mr. McArthur in the construction of the immense Public Building of Philadelphia. In this, with other professional work, he was actively engaged almost to the time of his death, neither age nor infirmity sufficing to quench the ardor with which he followed his beloved art. In the profession he took from the first the highest rank, and on the death of Mr. Richard Upjohn, the first President of the American Institute of Architects, he was practically the only candidate considered for the vacant place. During his long term of office he was untiring in his efforts to promote the good of the Institute and the profession. Although the meetings of the Trustees were held in New York, nearly a hundred miles from his home, he rarely failed to be present; and his Annual Addresses at the Conventions of the Institute were models of their kind. Just before the last Convention, overcome at last by the weight of his eighty-three years, and the suffering incident to a serious infirmity, he sent word that he could not consent to accept a renomination as President, and a successor was chosen, with an affectionate reluctance on the part of the members of the Institute which will be deepened to sincere grief by the news of his death.

IT is gradually becoming evident that some stand must be taken against the abuse of power by labor organizations, if manufacturing industry is to continue. Already the dictation of Unions has destroyed the prosperity of one of the most flourishing iron-producing districts in England, so that the last furnace, out of more than a hundred which were once at work there, has recently been extinguished, and a similar result seems likely to follow the tactics adopted in many cases in this country. One of the most compact, as well as most tyrannical, organizations is that of the glass-workers. This has about seven thousand members, and includes all the operatives in every glass-working establishment in the United States. No one can be employed in any such establishment who does not belong to the Union, and the officers of the latter, by the simple method of coercion which consists in calling out all the men in a factory at a given signal, leaving the proprietors helpless, with their contracts to fulfil, have acquired an almost absolute control over the business. Of course, one of their first exercises of power has been in the fixing of a scale of wages, and these were at first arbitrarily fixed at such a rate that a good workman could earn something like fifteen dollars a day by blowing eighty dozen bottles. As usually happens, however, some of the members of the Union, who did not care to exert themselves, even for the sake of an increased income, and

who disliked to see those who did exert themselves getting more money than themselves, procured the passage of a rule, cutting down the production to the capacity of the poorest men, about sixty dozen bottles a day, and imposing heavy fines on any member who tried to better himself by doing more than this; so that now the skilful and observant men make their sixty dozen bottles in a few hours, and are compelled, under severe penalties, to spend the rest of the day in idleness, waiting for their clumsy and lazy fellows to catch up with them. As all the glass-working establishments are under the same code, the manufacturers do not suffer from the extravagant tariff of wages, but simply shift the burden on the consumers by increasing the cost of the goods; but the Unions do not stop there. Not long ago a manufacturer came to his business one day, and found the men idle. On inquiry he was informed that he was required to advance a certain workman a dollar. As he had paid the man his wages in full the day before, he could not see the propriety of a demand that he should advance him more before it was due; but the workman coolly explained to him that he owed the Union a dollar, and had no money left out of his week's wages, and that unless his employer advanced him the dollar, the factory would be struck. Of course there was nothing for it but to hand over the dollar, and work was then resumed. A few days ago some quarrel took place in a Western manufactory between the owners and the men, and the latter, as usual, resorted to their weapons, and gave notice that a strike would be ordered in thirty days. This time, however, the manufacturers resisted, and called upon the others in the trade to help them. The appeal met with a general response, the methods of the Unions being about the same in all the factories; and it has been voted, we are told, if the offending factory is struck at the appointed time, to close all the glass-blowing establishments in the country, and keep them closed until it shall be definitely determined who is to manage the business for the future.

ANOTHER similar struggle has been for some time going on between the brick manufacturers of New York and the Central Labor Union. The walking-delegates of the latter have, for some reason, declared a boycott against certain manufacturers, and not only have they stopped work in the latter's yards, but have engaged the teamsters, longshoremen, and barge hands to refuse to have anything to do with brick made by the offending parties. What the occasion of the quarrel was we do not know, but the other brick-makers of the city, after considering the case, have resolved to sustain their fellows, and have already contribnted twenty-four thousand dollars toward the expense of doing so, and are now contemplating the establishment of a system of transportation of their own, independent of the present barge lines and teamsters' associations. Of course, the cost of doing so, and of all assessments and contributions made in aid of the boycotted firms will be added next year to the price of bricks, and will fall, in the shape of rent, upon the occupants of the tenements built with the bricks, many of whom will also, probably, have lost a considerable part of their income for the year, either in striking on their own account, or in contributions to sustain strikes somewhere else; so that the poor people, who live from hand to mouth, and cannot buy things when they are cheap, and keep them until they are dear, must, in the end, pay the whole expense.

WE mentioned a few weeks ago that experience had shown that mortar, made either with lime or cement, might be rendered much less susceptible to injury from frost by dissolving common salt in the water used for mixing the mortar. Since then we have seen an account of some recent experiments taken from the *Journal du Ceramiste*, which gives additional information on this very important subject. The experiments were made at Schandau in Saxony, and were suggested by the observation that mortar made with sea-water resisted frost better than that mixed with fresh water. In order to try whether water in which ordinary salt had been dissolved would answer the same purpose as the more complex sea-water, six samples of mortar were prepared. The first set, of three samples, consisted of clean river-sand, mixed with pure water for one sample, with water containing two per cent by weight of salt for the second, and eight per cent of salt for the third, and the proper quantity of hydraulic lime. The second set of samples was similar to the first, except that Portland cement was substituted for the hydraulic lime. A cube was made with each sample of mortar, about two and one-half inches on a side, and a square piece of tile was set on two sides of each cube, the mortar serving to cement the pieces of tile together. The samples were then exposed for three weeks to the weather, the thermometer during a portion of the time descending to sixteen degrees above zero of Fahrenheit, and were then brought into a warm room and kept for a week longer. At the end of this time each sample was tested. In general, the samples of cement were stronger than those of lime, but both the samples which had been mixed with pure water were disintegrated, crumbling away in the hand, and the bits of tile which they united were easily removed. The samples with two per cent of salt in the water were in much better condition. The mortar could not be crumbled with the hand, and, although one of the tiles could be forced off, the other still adhered to the block of mortar. The last two samples, made with water containing eight per cent of salt, presented a very considerable resistance. No impression could be made on the mortar without a hammer, and the tiles could not be separated either from each other or from the central mass of mortar, but broke away in pieces under tension, leaving fragments still clinging to the mortar. These experiments, simple as they are, seem to prove conclusively the value of salting the water in mortar for work to be laid in winter, and in our climate, where frosts come so suddenly and severely, the timely use of this ready means of defence against injury from them may be of great value.

ACCORDING to the accounts, a definite bargain has been made, by which the Trustees of the New York Episcopal Cathedral will come into possession, at the end of two years, of the plot of ground which had already been most favorably considered, just west of the Morningside Park, on the high plateau overlooking the Hudson River on one side and the Sound on the other. The estate purchased includes more than eleven acres of ground, and, at the price said to be paid for it, eight hundred and fifty thousand dollars, is very cheap for land so well situated in New York. As the cathedral building will hardly cover more than one-tenth of the ground, and the estate has a frontage on Morningside Park of seven hundred and thirty-five feet, so that the church will need only a comparatively narrow space at the sides to isolate it sufficiently, we suppose that it is intended to sell a portion of the estate, to which great additional value will be given by the building of the cathedral, and in this way raise a portion of the money required for construction.

MANY persons have probably had occasion to notice a change which takes place in Portland cement of certain kinds, which, when exposed for several years to the air, gradually loses its consistency and crumbles. So serious is this danger that the German Minister of Public Works issued in 1885, according to the *Schweizerische Bauzeitung*, a circular, restricting, within narrow limits, the use of Portland cement in work exposed to the air. Since that time, Professor Tetmajer, of the Federal Polytechnic School at Zurich, has devoted himself to investigating the matter, which he considered, with reason, to be of great importance to the building world, and has arrived at interesting results. According to him, the cause of the disintegration of cement exposed to air is to be found in a want of proper preparation of the materials, particularly in the lack of sufficient grinding together of the chalk and clay to ensure the complete silicification of the lime during the process of setting. When the imperfectly-mixed cement is used, the formation of crystalline silicates goes on around the semi-vitrified clay particles only, leaving portions of chalk in the condition of hydrate of lime. These portions lose their water by evaporation and by absorption of carbonic acid from the air; they are dissolved and disintegrated by rain and acid vapors, and leave the crystalline particles without cohesion among themselves. As the brands of cement which are liable to this sort of decay are not common, forming only about ten per cent of those tested by Professor Tetmajer, it is of importance to be able to distinguish them, and this may, as he says, be done by making a cake of the suspected cement, allowing it to set for twenty-four hours in a damp place, and then placing it in an oven maintained at a temperature of about two hundred and fifty degrees Fahrenheit. In the course of three or four hours the cakes of cement of a quality liable to crumble in air will become warped and more or less cracked, especially around the edge, while those which resist this test have been found without exception to be free from all tendency to crumble by prolonged exposure to air at ordinary temperatures.

THEATRE FIRES.[1] — REMEDIES.

IN a minor theatre in a small city in one of the Middle States, at a holiday performance of the "Streets of New York," the ambitious "property-man" had climbed into the flies with a pan of combustibles and fire-works to give due effect to the usual "fire scene." In his ardor to do the thing handsomely he grew careless through excitement and fired his whole stock of explosives at once. As might have been supposed, he was pretty badly burned and thrown senseless onto the stage below. By the greatest effort the flames were got under control, and the curtain fell amid the approving cheers of the audience, who little suspected they were applauding a realistic effect that came very near including themselves. The wounded hero of the hour was borne to the green-room, and under the influence of restoratives gradually regained consciousness. As his senses slowly came to him he looked feebly up at the sympathetic faces that bent over him and huskily murmured "*Was it a hit?*"

This anecdote is not only true but typical. One who has had no experience in the theatres can form no idea of the risks that are habitually taken to achieve popular success. The safety of actors, audience and building are all relegated to a secondary position when such is the objective. Incipient and often well-advanced fires are extinguished at frequent intervals, and come to be considered unavoidable. Two fires occurred in the Brooklyn Theatre shortly before the final deadly conflagration. One of them was of sufficient magnitude to start the spectators from their seats; and yet nothing was done to prevent a recurrence.

On "opening" and "first" nights and on holidays the insufficient force of stage-hands, as well as the actors, is overworked. All special precautions are forgotten or neglected. The auditorium is often unwarrantably crowded, especially in the upper tiers. All is bustle and excitement before and behind the curtain. At such times the only safety is in the cool exercise of control by an independent governing power, entirely apart from the general management, and acting with reasonable but absolute authority solely for the safety of the public. A corps of special police under the direction of the department for the inspection of buildings or of the fire-department might properly be charged with this duty.

If the present law is so revised as to compel every stage with all its paraphernalia to be made absolutely incombustible, the inspection would be a simple and easy matter; and would pertain chiefly to enforcing regulations against obstructions of exits and precautions against panics or rushes from any cause. In view of the acknowledged inventive genius of our nation it is absurd to consider such a result impracticable. To achieve it we must turn our backs on all foreign precedent. The question is not whether we can imitate the clumsy machinery in vogue in different materials, but whether we can produce all the needed effects and changes reasonably required, by methods entirely novel. It may be necessary to curtail and simplify the scenes somewhat at first, as is already done in many specially-constructed theatres on account of other limitations, but the gain will vastly overbalance the loss — especially if it should lead to the substitution of good acting for the meretricious effects of the machinist and scene-painter that are now made to do duty in its place. Some of the most successful theatres in use are small, with small stages, no sub-cellars and few traps or other accessories of the trick stage.

Although the degree of exemption from risk to be demanded must be determined finally by the people, if they do not elect to compel the full measure of absolute safety, it is next to be considered how to secure partial safety with the means available. For guidance in this as in the other case we must turn our backs on precedent. The supposed necessities of English and French custom have led to the peculiar form of theatre of which the prominent feature is a lofty auditorium with many tiers of boxes, necessitating a proscenium opening varying from a square to a height about once and a half its width. This, if filled by the scene, would necessitate a stage picture of awkward shape and great size. To lessen it, the upper section, sometimes to the extent of one-third, is commonly filled by a painted drapery. With a stage fully stocked with borders, and drops rolled up or tripped, and all their complication of light rigging, the first flames rise at once to the top, and in a few moments burst through the canvas screen and roll their volume of suffocating smoke out at the soffit of the high curtain arch and across the ceiling to the upper gallery, where the exits, being ordinarily at the highest point and near the ceiling, are choked almost before the people in the front seats and gallery ends can reach them.

There is not the least necessity for such extravagant height in American practice. The many tiers of boxes having long ago proved unprofitable, our managers have generally insisted on an open balcony and a second or sometimes a third gallery. The upper one is always very closely seated, to hold as many as possible on holidays, when anything in the shape of a seat or standing-place is saleable. Both galleries and balconies are deep, often having eight rows or more of seats. It thus frequently happens that, at the most dangerous time the upper gallery may contain five hundred or more people, and the whole building be crowded with double the number that should be allowed in it, and that are usually reckoned on in the provision of aisles and exits. A second gallery should never be allowed, except with such extreme provisions for safety as would make it an unattractive investment. Without it the form of proscenium opening could easily be modified to one of much greater safety — that is to say, lower and as wide or wider. A better stage picture can be set in a frame thirty feet wide and twenty feet high than in one with these dimensions reversed. The useless top drapery should be omitted altogether. Twenty to twenty-five feet high would give sufficient room to show two stories of cottage, house, or even palace; or shrubs, tree-trunks or lower branches in immediate foreground. Loftier structures, and full trees or forests can be set up the stage with as good or better results. Thus, with a low opening a large space would be available to hoist the fire-curtain and other curtains and all drops flat, without tripping or rolling — a very great convenience and saving of wear and tear, and a change that would greatly facilitate the work of the stage.

The lighting of the scenes might also be much improved, as border and foot lights would be brought nearer together; or for the latter, which are every way bad, an overhead front light could be substituted.

So radical a change in the proportions of the scene-opening would naturally lead to corresponding variations in the lines of the auditorium. It is not difficult to build, even after the present fashion, with such right lines that every seat in the house shall command a fair view of the stage for people of average height. The number of theatres, however, that can honestly claim as much is very small. But when it becomes necessary to provide for men and women of varying heights, and for all possible feminine extravagances of headgear, the most skilled efforts lead to only indifferent results. A pitch is needed that shall include all eccentricities of stature and costume, and for this is required a rise of from one foot to eighteen inches in three feet, except in the few front rows which may even rise towards the stage. In fact, the pitch should not be a straight line, but in the form of what one writer calls an "isacoustic curve," or the curve of equal seeing and hearing. It must necessarily vary somewhat with the depth of seat-steps and other conditions. With so steep a pitch all the spectators would have a clear view, and no business of the piece and no temper would be lost in the unpleasant exercise of dodging the heads of one's neighbors. With the clear view would come equally clear hearing, and the depth of the house could be extended to the full limit of the actor's or singer's voice. One shallow gallery of three or four rows could be set low over the rear seats, if needed. The loss of room in an audience-room with these lines would be much less than at first appears, as the steep pitch of the seats would give room for ample lobbies and vestibules directly under the floor instead of in the rear of seating as now. Through numerous openings in the steep floor, the audience could promptly retreat in the opposite direction to the natural advance of flame and smoke. In such a plan we have simply a modification of the ancient amphitheatre, roofed in and otherwise remodelled for modern use. Such a form was suggested by the writer in your pages in one of a series of articles on theatres in 1879, and something similar in the seating arrangement by another in an illustrated article of January 13, 1877. The Wagner theatre at Bayreuth has somewhat the same form of seats. Of late it has been reported that Mr. Henry Irving has commended the amphitheatre-seating as best for safety and convenience. To make the change fully successful, the modification of the pitch and the elimination of galleries must be combined with the change of curtain-opening.

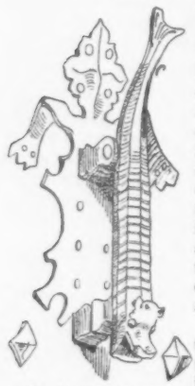
In any building the higher you carry people up the more difficult it is to bring them down safely. Some sacrifices must be made and expense incurred to remedy existing dangers in our theatres. Is it not better to take the natural and common-sense course at the loss of a little seating-room, but with the gain of much convenience, rather than at as great expense try to forcibly adapt an antiquated system to the changed conditions and needs of the present?

Such radical reforms as have been proposed apply strictly to new theatres. The exact form of such structures cannot be prescribed by law, perhaps, but the law can enforce every essential condition of safety. The present Boston building-act, although all in the right direction, is found, when viewed in the light of late experience, to require additional provisions and greater stringency. At least three sides of every theatre should be "exposed on streets or open passage-ways fifteen feet or more in width," instead of one side, as at present.

[1] *Erratum.* In fourth paragraph, second column, page 192, for "invasion" read "evasion."

Gas for lighting should be prohibited. No exits should be allowed through other buildings. "Special exits" should not be reckoned in the legal allowances for exits. All lobby, stairway, entrance and dividing walls should be of solid brick masonry one foot or more thick. Oil lamps or candles in sufficient numbers and enclosed by glass should be kept lighted in all stairways, lobbies and passages of exit and in rear of auditorium. Second galleries should be prohibited. The sale of standing-room should be prohibited. A rigid system of inspection should be inaugurated, with heavy penalties for violations of the law. The existing theatres should be carefully and thoroughly surveyed by a competent board of disinterested experts. Where possible, sufficient changes should be ordered to render each building reasonably secure. Where such changes are not possible, or the owners decline to make them, the theatre should be at once closed to the public and its license revoked. In the meantime, those who wish to avoid the greater risks should attend the newer theatres and those lighted throughout by incandescent electric-lights. There is no more direct way to absolute safety in building than to render bad methods costly and unprofitable. J. A. F.

SPOTS UPON PLASTER CEILINGS.



OLD KNOCKER. AT BARCELONIA

During the summer I was called to inspect a building lately erected and to find the cause of discoloration of the ceilings. Particularly upon the ground floor there were constantly to be seen brown spots, and these were intensified in damp weather, and at the same time other spots would appear, which faded away as dry days returned. A few isolated spots could be found in other parts of the building, but most of them were concentrated in the one lower chamber. The building is constructed with floors of flat terra-cotta arches, the ceilings plastered directly upon them, and there is a layer of several inches of cement concrete above the terra-cotta work and upon which the board floors are laid.

A careful survey of the ventilation-flues, to trace possible leakage, failed to establish any relation with the spots. They were equally in the centre of the ceiling of the lower room and at the sides. In one case, a single spot was found in the entry of an upper story. The tiling above this one spot was removed, also the concrete, but there was no sign of any unusual condition; everything was dry, there was no disintegration of the cement, nor was the upper surface of the exposed terra-cotta block discolored. Evidently some local cause in the plastering or coloring was to be sought.

To this end I took a number of samples from a ceiling of both plastering and kalsomine in spotted places, and the same from clear portions adjoining. The plasterer who had done the work informed me that only the common lime-and-sand plaster had been used, and no hard-coat had been put on. The kalsomine had been applied directly to the second coat. This kalsomine was the ordinary one of Paris-white, chrome-yellow and umber, with a glue size—a yellow tone of brown. It had been worked on soon after the plaster was well dried.

Microscopic examination of the samples showed no cause for the stains. The deeper-colored kalsomine of the spots looked like the addition of more umber, though no greater proportion was really present. A chemical analysis of the plaster, however, furnished a clue.

	Lime.	Sand.
A light brown spot gave	62%	38%
A dark brown spot gave	70%	30%
A clear portion neighboring gave	51%	49%

Thus it appears that where the lime was in excess of the normal proportion between it and sand, the spots occurred, and the spots deepened in color with greater proportion of lime.

In pursuit of this idea, I sent a block of the terra-cotta similar to those used in the building to the plasterer, requesting him to put upon it two coats, as he had done in the work. Some kalsomine was sent me made as was that used in the building. Before applying it, I located some lime spots free from sand upon the plaster. To duplicate as nearly as possible the damp condition of the floors from the effects of the undried concrete, I filled the ducts of the terra-cotta block with damp sawdust and maintained it so. In a few days there appeared on the kalsomine surface brown spots, the counterparts of those in the building, wherever the lime spots in the underlying plaster occurred.

The reason of the formation of all the spots was undoubtedly the same: Small lumps of partially-slaked lime had acted upon the iron oxide (umber) of the kalsomine, and its color had been increased by the causticity of the lime, which, as it became further slaked by the moisture drawn through the porous terra-cotta from the concrete above, spread out the deepened color into a considerable spot. Probably one or two barrels of the lime used were not as well burned as usual, and, in tempering the plaster, small lumps of half-slaked lime escaped notice. In spreading this upon the ceilings, the trowel broke down such lumps, and they were partially mixed with the sand of the plaster in which they lay, but not enough to prevent analysis from showing a notable deficiency of sand and consequent good mixture of wet plaster, or enough to thoroughly slake the lime lumps. These lime spots are exceedingly persistent when fed by moisture from a concrete above, and once they appear, no ordinary work, like additional washes of color, or even a coat of oil paint, will obliterate them.

Two ways of obviating such occurrences suggest themselves. Presuming that lime plaster may not always be perfectly tempered, it would be well to postpone the kalsomining as long as possible, or, if this is not practicable, the safe course is to apply a hard-coat (plaster-of-Paris) before kalsomining. Where the expense of a hard-coat must be saved, the sure way to avoid spotting is to use only the best prompt-slaking lime for the plaster-work, leave it piled as long as may be, and double-temper it. Then there is fair reason to expect a good result. The thick layer of concrete used in construction of this kind dries much more slowly than the plaster, and furnishes moisture to it for so long a time that it is indispensable for good work to have the plastering in perfect condition if the ceilings are to be kalsomined at once they appear to be dry.

Charles Tennant Lee.

SUGGESTIONS TOWARDS THE BEST AND SPEEDIEST METHODS FOR HARMONIZING AND UTILIZING ALL THE ARCHITECTURAL SOCIETIES IN THE UNITED STATES,[1]

SO AS TO SECURE THE MOST GOOD FOR ARCHITECTURE, FOR THE PUBLIC AND FOR THE PROFESSION IN AMERICA; DUE REGARD BEING HAD, AS CONCERNS MEANS, ALIKE TO INDIVIDUAL ENERGY AND ENTHUSIASM, AND TO ASSOCIATIVE EXPERIENCE; AND, AS CONCERNS ENDS, ALIKE TO LOCAL SENTIMENT AND TO NATIONAL REPUTATION.

OLD KNOCKER AT BEAUNE

With so many architectural societies, filled with able men, there should be nothing too hard for us to do. But while there is good feelings between the different organizations, nothing requiring coöperation has been carried out by them. If all had the same definite views and steady purposes more would be accomplished, but until they have there will be wavering interests and semi-isolation, and, lacking the weight of authority, all important efforts will be like balls shot from a Roman candle, brilliant and well directed, but without power to penetrate. A few local bodies do accomplish something in a social way, also by reading papers and by specific discussions, but this is nearly all. To go much farther would need coöperation, which does not exist. Nor can national societies do much more than local ones, because they have no power to enforce their ordinances. And yet there is work to be done which, if not new, is very important to us all.

To exist, art needs sympathy, and to grow it needs that sort of criticism which ennobles both artist and critic. Therefore, kindly intercourse among architects is useful and should be cultivated; the more because social life both spurs to effort and helps one to keep a check upon his selfishness. A man, when tempted, may wrong his fellow, but is less likely to when both are of the same society, in which he must endure the reproachful looks and scorn of mutual friends. Members of any organization hate to fall below its average beliefs, no matter what its practice may be.

There is growing need for better training of draughtsmen than our practice now affords, yet there is little chance but in offices for most of these boys to learn. They need schools or lectures, or both; but having neither they fall far below their own possibilities. The work of changing this state of things should be ours. Where there are no technical schools we ought at least to establish some systematic method of training, perhaps by lecturing ourselves, no matter how slight or imperfect results may at first be obtained.

Since the schedule of fees was first printed our methods of work have improved. The amount of drawing alone then done on a given job in the best office would now be regarded as shamefully superficial in the poorest. It costs, not twice, but many times the sum it used to complete the office-work of any building. We are more thorough now, and should be paid in proportion.

Our efforts to throw open the Government work to the profession should continue, for the public surely has a right to the talent of its greatest architects, and the profession has a right to the work. Besides, it is a fact that public buildings badly designed depress and injure the artistic sense of the whole people, instead of inspiring to better taste, as good ones would. The national structures are the landmarks of our professional horizon; they are most prominent where most men are gathered together, and no one can help but see them. So for good or ill we are all profoundly affected by them.

Statutory revision is necessary, not by Congress alone, but by the legislatures of every State in which the practice of architecture is not already restricted to licensees possessing competent diplomas, or who have passed examinations before State boards.

But more important than anything yet attempted to be done by

[1] A paper read by D. H. Burnham, F.A.I.A., at the Twenty-first Annual Convention of the American Institute of Architects.

any society is the compiling and publishing of a code of ethics for architects, which, of course, shall show what is good, but especially what is professionably damnable in our dealings with each other. Let this be rendered in strong, clear type, and put upon the desk of every one, and it will at once have a most salutary effect upon the fee-cutting, back-biting, back-stair climbing crowd, and remove temptation from the lives of those yet uncorrupted.

To be sure, the above list does not present much that is fresh. Most of the subjects have been themes for discussion this many a day, but the truth remains that we have scored very few successes with them, and have made many failures. There has been too much energy wasted, and now we ought to try and weld our heterogeneous elements into a more effective whole. There has been no lack of material or effort, but our struggles have been scattering and uncertain, so that lately our meetings have commenced to be nerveless in many cases, with a growing apathy regarding matters of reform and a growing reliance upon good social times when we meet. In fact, some of the Chapters and Associations are practically dead, excepting for banqueting and the election of officers.

As a whole, the architectural societies have had plenty of time to show what they can do. But if measured by our hopes, or what we have expected, their work has not been satisfactory. We have strength enough, but it has not been brought to bear at the right place and time. No one can doubt that we have tried hard, but taking the entire record we have only won that kind of success most nearly akin to failure. And now three courses are left to us: to give up entirely, to go on as we are, or to re-organize. The first we cannot think of; the second we are dissatisfied with, and we must look to the last for the only chance to justify continued existence. If the latter way be chosen it is plain that some, if not all, of the old societies must dissolve and pass away. There have been too many, and their chief faults have possibly arisen from this. Since some must go, to avoid wounded pride or vanity would it not be better for all the old societies to give up their charters, and for the members to join together in a single new body, where shall be centered all their social activities, their art discussions and displays, their reform agitations, and finally their full authority. In this case there will be some hope for effective work on the lines of activity proper to architectural associations, and we shall have the chance to finish some of the many things we have commenced.

I do not know, in view of fresh organization, that there is to-day a single society or name to be kept, unless, perhaps, it be the title "American Institute of Architects," and this only because its dicta are the basis of so many court decisions in every State, and because its name and reputation are incorporated in the records of foreign societies. This question, however, is for some future committee to deal with. The matter of naming is of little consequence compared to what the constitution and by-laws shall be. If the name of the American Institute, or any other society, be retained, it must not mean that their organization shall be kept as it is to-day, it must be radically different. The present condition of things is as follows: We have many societies scattered through the country, whose members have the privilege of attending the annual conventions of either one or both the national gatherings. The change should not do away with the system of local societies, nor the valuable work they are capable of, for the localities in which they are established. But there should be a national controlling body in general things of practice, the members to be elected from the local ones. The annual meetings of an elected body would not be merely pleasant gatherings, no man feeling any particular responsibility; but earnest meetings of those best qualified to act, each one having a sense of responsibility, a clear purpose, and the obligation upon him to do hard work.

A small body of carefully selected men meeting annually for definite purposes, and entrusted with full authority, is what is needed. It is not in the scope of this paper to particularize much about it or its dependent societies, any more than to say that the first should act in matters applying to all architects throughout the country alike, and the latter in matters of social, artistic, and local work. How the local organizations should be formed, where and when the members of the controlling body should be elected, are matters for others to consider.

There should, and undoubtedly will be a memorial hall where may be gathered the portraits, busts, and mementos of our mighty dead, and in which shall be our national archives and library. The only place where this building can be erected without raising local feeling, is at Washington, and there it should be.

The office of representative at Washington should be difficult of attainment and of high honor. I believe the men should be elected for a long term, and that all elections in architectural societies, whether national or local, should be absolutely without nominations being previously made. Men ought to ballot without being prompted or checked by any committee or clique, and it should be cause for expulsion for any man to be found directly or indirectly soliciting office for himself, and there should be some penalty attached to his friends doing it for him. The judgment of a society is always best as to who is fitted to serve it, if the men are left to themselves.

A committee should be appointed by this meeting to act with another from the Western Association. These two should be empowered to meet and prepare a plan and recommendation to be submitted for consideration of both bodies in 1888. They should go into the matter of advisability of a complete new organization, and of how it could be brought about; of what in the main its form should be; how first elected; how the local bodies might come in and be used, and finally should give an outline of the constitution its work, and the chances for its being successful in the direction we shall want decisive action in.

MANUAL TRAINING AS APPLIED TO THE BUILDING ARTS.[1]

STABILITY, utility, beauty—these are the attributes with which the architect seeks to endow the crude materials placed at his disposal — wood, stone, and iron. They lie in a confused mass at his feet, and he is to cause them to be fashioned, piece by piece, and assign to each its due place in the structure designed for the use of man.

Turning now toward the East, he passes in review the architectural triumphs of the ages — the Pyramids of Egypt, the temples of Greece and Rome, and the cathedrals of mediæval Europe. Inspired by the imposing retrospect, there rises before his eyes the vision of a building in which proportion, harmony and symmetry are happily blended. Fondly cherished, this child of the imagination, the shadow of a design, a filmy fancy, floats in the mind of the inventor, waiting to be transferred, a thing of beauty, to the solid earth. With an expression of rapture, he essays to speak, to describe the vision he sees, but the first word sinks away into a sigh of despair.

So it was ever from the beginning and ever shall be to the end, that imagination halts on the verge of performance, and speech fails at the critical moment, and it is always the hand that comes to the rescue of both.

It is only with the pencil in the trained hand and in a universal language — a language as plain to the Russian, the German, or the Frenchman as to the American — that the divine dream of genius can be rendered visible in lines, shades, angles and curves, to the gaze of an admiring world.

And so it is in every step of the builder's art. He who suggested that the branches of a tree be pulled downward and held by clods of earth to form a shelter, was the inventive spirit of the primitive man who shivered in the freezing blast. But he who seized the branch with his hands, and he who pinned it to the earth with a stone, these, not less than the other, made the rude house.

From the cave and the mud hut, which protected the race in its infancy, to the sumptuously-appointed city mansion of the present time, is a long progress, consisting of many steps, but these steps were not taken by the mind alone. It is only in the realms of mythology that the goddess, full-armed, is created by a thought. In real life, things of use and beauty spring only from thought and action combined. In the mind of an inventor, the machine is an idea, not a thing. It is the Midas-like touch of the hand that converts the idea into a locomotive, a steamship, or a cathedral. The steam-engine of Watts, Fulton and Stevenson existed dimly in the mind of Nero of Alexandria, but to develop Nero's thought required two thousand years of experiment.

So of architecture. There came a time — man having long since emerged from the savagery of the hut — when the designer of rude houses and temples, dreaming under the majestic arches and in the long-drawn aisles of the forest, saw, with prophetic ken, the sculptured splendors of the Parthenon, the vast unity of the Colosseum, and the symmetrical outlines of the dome of St. Peter's. How many thousand years were passed in reaching the dreamer's ideal is a secret of antiquity, destined to remain forever unrevealed. But of all the long progress not a step was taken without the aid of the hand.

From the first to the last operation in the builder's art, from foundation to turret of every edifice, from the first brick laid in the wall to the last touch of the painter's brush, the hand is the supple, cunning agent. It quarries and adjusts each stone in its place, fashions every timber, makes the mortar, carries the hod, wields the trowel, molds the glass, drives every nail.

These services are humble, but they are not mean; no service that is useful to man is ever mean. Plato's dogma — "all the useful arts are degrading" — is the most pernicious, as it is the most potent evil ever exerted upon the human race. It is in accordance with the eternal fitness of things that this dogma should have had its origin with a people who treated women with brutal contempt, assassinated infants, and taught their idle sons to hunt and wantonly slay peaceful slaves found toiling for their masters in the fields. But it is as strange as true that this dogma, shorn of its more repellent features, still controls, autocratically, all the colleges and universities and most

[1] A paper read by Charles Ham, at the Twenty-first Annual Convention of the American Institute of Architects.

of the public schools of the civilized world, and perverts, almost beyond redemption, the mind of every youth brought under its malign influence.

But the work of the hand is not confined to the coarser departments of art. It traced on paper the builder's initial thought — a thought too subtle and unsubstantial for expression in words; and of the mind it was the confidant and co-worker from the beginning, as it must be to the end, for the hand not only lays the foundation-stone, rounds the dome and points the spire, but adorns with splendor every part, enriching now with chisel, now with brush, overlaying all with a garniture whose design is not more chastely beautiful than finely wrought.

In the presence of the works of Phidias, of Michael Angelo, or of Meissonier, we are awed into reverential silence. We think of the products of the chisel and the brush as direct emanations of the brain. But Mr. Ruskin, with fine discrimination and insight, calls attention to the fact that "all the great early Italian masters of painting and sculpture began by being goldsmiths' apprentices, and that they felt themselves so indebted to and formed by the master craftsman, who had mainly *disciplined their fingers*, whether in work on gold or marble, that they practically considered him their father and took his name rather that their own." And Carlyle says: "Venerable to me is the hard hand, crooked, coarse, wherein, notwithstanding, lies a cunning virtue, indefeasibly royal, as of the sceptre of the planet. Venerable, too, is the rugged face, all weather-stained, besoiled, with its rude intelligence, for it is the face of a man living manlike."

The works of the sculptor and painter are not more direct emanations of the brain than are the humbler products of the toil of the craftsman. Both spring from that cunning virtue, "indefeasibly royal," that lies in the cultured hand. Both are essential to man's progress and both are equally honorable.

The decrees of the ancients, consigning the artisan to servitude, poverty and shame, and lifting the artist to the throne of kings, were brutally unjust. The term fine arts, as applied exclusively to painting and sculpture, is a misnomer. The useful arts are finer than the so-called fine arts. The latter are confined within narrow limits, while the scope of the former is co-extensive with the resources of nature.

There is more imagination, sentiment and humanity in a locomotive or a steamship than there is in the statues of Praxiteles, the paintings of Raphael or the works of Shakespeare. The relation between the useful and the so-called fine arts is undergoing a change — a transposition. The useful is about to take its rightful place in the order of excellence — the place too long usurped by the merely ornamental. In architecture, the true relation between use and beauty has always been observed to a far greater extent than in any other department of art, owing, doubtless, to the law of necessity, the natural law of Vitruvius — stability, utility, beauty. The essentials are in the order here set down; in the absence of the first two qualities, the last is vain. But even in an art so perfectly developed as architecture, there is in progress a radical change, and it is in the direction of greater utility. Thus the world moves always toward a higher appreciation of the useful arts. And this is a natural law, for the useful arts differentiate the civilized from the savage man. They are the true measure as well of moral as of mental progress, and every step in this direction confers a new dignity upon manual labor.

We are thus fast approaching an age and condition of things when Rousseau's anathema against idleness will be accepted as an imperative social law — "The man who earns not his subsistence, but eats the bread of idleness, is no better than a thief."

Manual labor, then, being the very soul of the builder's and of every other art, and the useful arts being the true measure of civilization, the co-education of the mind and the hand becomes the first duty of society or the State. And this is plainly the road to the solution of the labor problem. For it is idle to dispute the proposition: there *is* a conflict between labor and capital, and it will never be settled until it is settled according to the immutable laws of justice. The way to such a settlement lies through education — such a practical training of mind and hand as shall dignify labor by enlightening it, and so lead to such a system of co-operation as shall result in the fair distribution of all the fruits of labor, among those who contribute, manually or mentally, to their production. "Instead of the thorn shall come up the fig-tree, and instead of the briar shall come up the myrtle-tree. And they shall build houses and inhabit them; and they shall plant vineyards and eat the fruit of them. They shall not build and another inhabit; they shall not plant and another eat."

Sewage Destroyed by Burning It. — It is curious that just as we in London are spending scores of thousands of pounds in establishing a system of getting rid of our sewage by throwing it into the sea, the Parisians are seriously experimenting with a view to destroying their accumulation of sewage deposits by burning it. They seek to affect by fire what we intend to do by water. Before cremation can be generally applied to sewage matter, however, there must be a guaranty that the process of burning will generate no foul odors, and it is said that a recent invention enables the promoters of the new system to give that guaranty. The issue of the experiments should be closely watched by the long-suffering London rate-payers, for if burning is practicable it ought to be cheaper to carry out than the shipment of the solid sewage to some point well outside the Nore. — *London Figaro.*

The Illustrations

[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

THE PARLIAMENT HOUSE, QUEBEC, CANADA. MM. P. GAUVREAU AND J. B. DEROME, ARCHITECTS, ASSISTED BY M. E. E. TACHÉ, COMMISSAIRE DES TERRES DE LA COURONNE.

[Gelatine Print, issued only with the Imperial Edition.]

SKETCH FOR HOUSE IN WASHINGTON FOR COL. JAMES F. DWIGHT, MR. H. EDWARDS-FICKEN, ARCHITECT, NEW YORK, N. Y.

THIS house will be built on the corner of Q Street and Connecticut Avenue, on a somewhat curiously-shaped lot. Taking advantage of this and the "parking" privileges that Washington allows, the rooms are designed in a freer manner than usual on an ordinary city lot. The basement story will be built of cobble-stones that have already seen service, and above the water-table of Baltimore brick and Lake Superior stone, with terra-cotta Spanish tiles on the roof. The balcony under eaves will be of oak.

THE CALDWELL HOTEL, BIRMINGHAM, ALA. MR. EDOUARD SIDEL, ARCHITECT, BIRMINGHAM, ALA.

The building is of stone, terra-cotta, and Philadelphia pressed brick, and will cost $250,000 without the furniture. It will give accommodation for 400 guests, and has all the modern improvements and conveniences.

The hotel is erected by the Caldwell Hotel Company — Dr. H. M. Caldwell, President, and one of the largest stockholders, and Joseph F. Johnston, Secretary and Treasurer. It will be completed by May, 1888.

REREDOS AND ALTAR FOR BETHESDA CHURCH, SARATOGA SPRINGS, N. Y. MR. A. PAGE BROWN, ARCHITECT, NEW YORK, N. Y.

The reredos is of antique oak elaborately carved, with decorative panels representing the "Good Shepherd" and adoring angels. These decorations were painted by Mr. F. S. Lamb, who has recently returned from study on the Continent. The altar is of Echaillon marble with symbolism inlaid in mosaic. The work was executed by Messrs. J. & R. Lamb of New York.

COMPETITIVE DESIGN FOR THE OFFICES OF THE NEW YORK LIFE INSURANCE COMPANY, KANSAS CITY, MO. MESSRS. BABB, COOK & WILLARD, ARCHITECTS, NEW YORK, N. Y.

Our readers will remember that this design was submitted in a competition held in February last, and that the accepted design was published on April 9 last.

HOUSE OF A. NERESHEIMER, ESQ., NEW YORK, N. Y. MR. A. B. JENNINGS, ARCHITECT, NEW YORK, N. Y.

COLOR AND THE COLUMN.

OLD KNOCKER, SARAGOSSA SPAIN.

WHENEVER art addresses itself to realize in its work a certain degree of dignity — when it aspires to what may be worthily characterized as refined style, it concentrates its energies within some definite limits of the general scope of refined and elevated expression. This scope has infinite gradations between severity and grandeur in one direction and elegance at the other extremity. Intermediately is the place of that gracefulness which may verge to the decorative on one side and the majestic or the sublime on the other. Every original work of fine art is original and valuable to the extent that it gives force and emphasis to some special phase of these elements as they blend in novel and self-consistent proportions. So it is that the leading types of humanity have been taken as types of style. Vitruvius, in accordance with his system of cut-and-dried precepts, sets forth how the Greek columns were designed upon certain fixed patterns and those derived from the measurements of leading classes of the human figure. The Doric, he tells us, has the proportion, solidity and appropriate beauty of the manly figure; the Ionic column imitated the more slender form, the ornaments and attire of the matron; her hair above the forehead and her pendant curls were represented by the carvings of the mouldings and by the volutes, and the deep flutes of the shaft were architectural translations of the vertical folds of her raiment. Lastly, the type of the virgin's beauty

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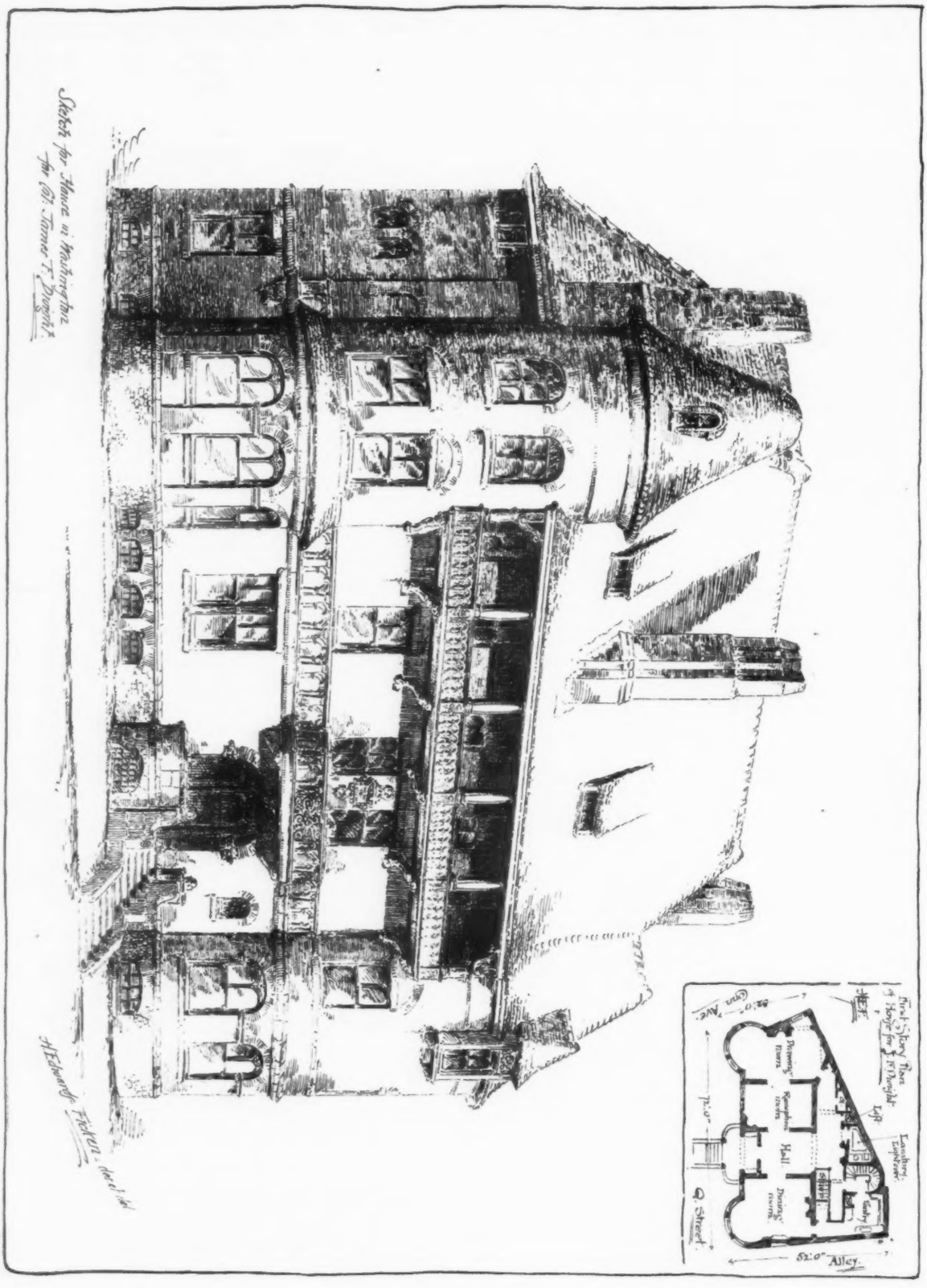

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THE CALDWELL HOTEL

BIRMINGHAM, ALA.

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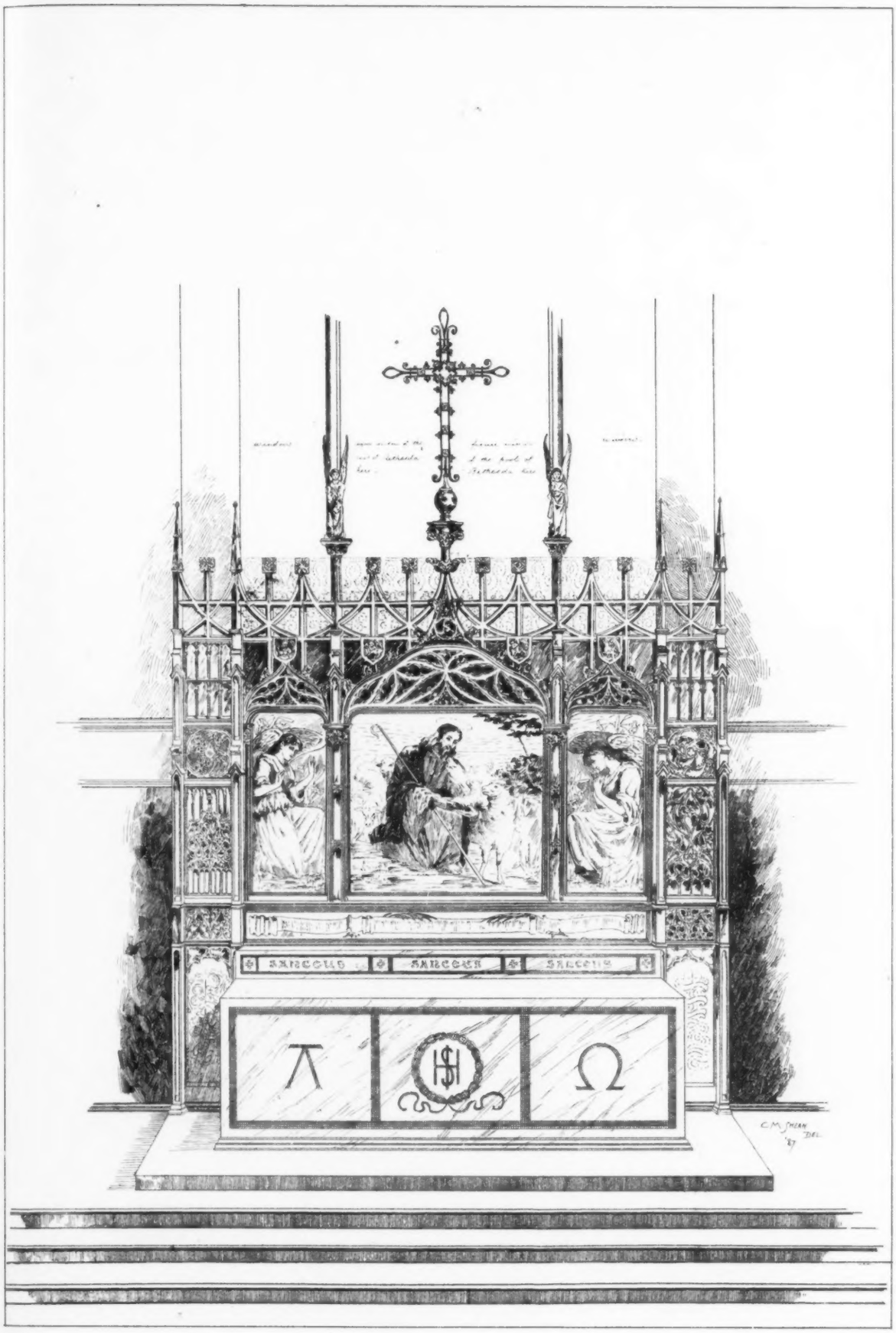

REREDOS and ALTAR for BETHESDA CHURCH
SARATOGA SPRINGS · N.Y.
A. PAGE BROWN · Arch't

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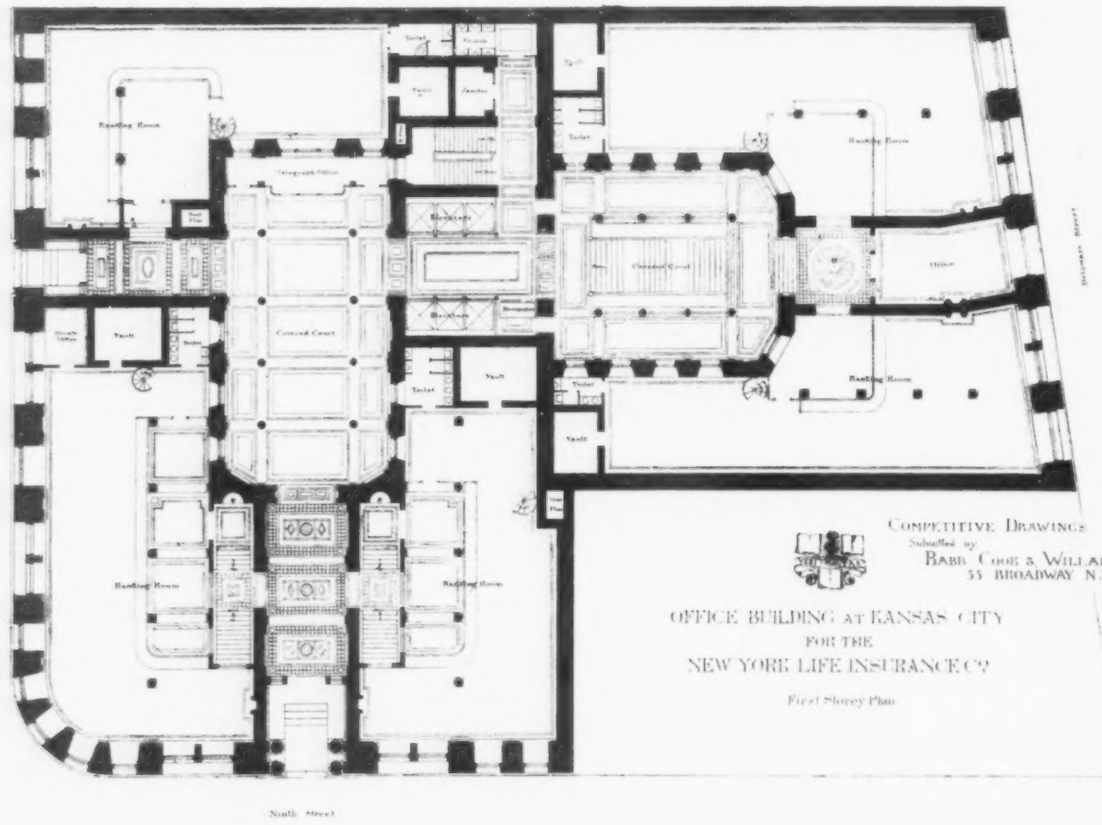

COMPETITIVE DRAWINGS
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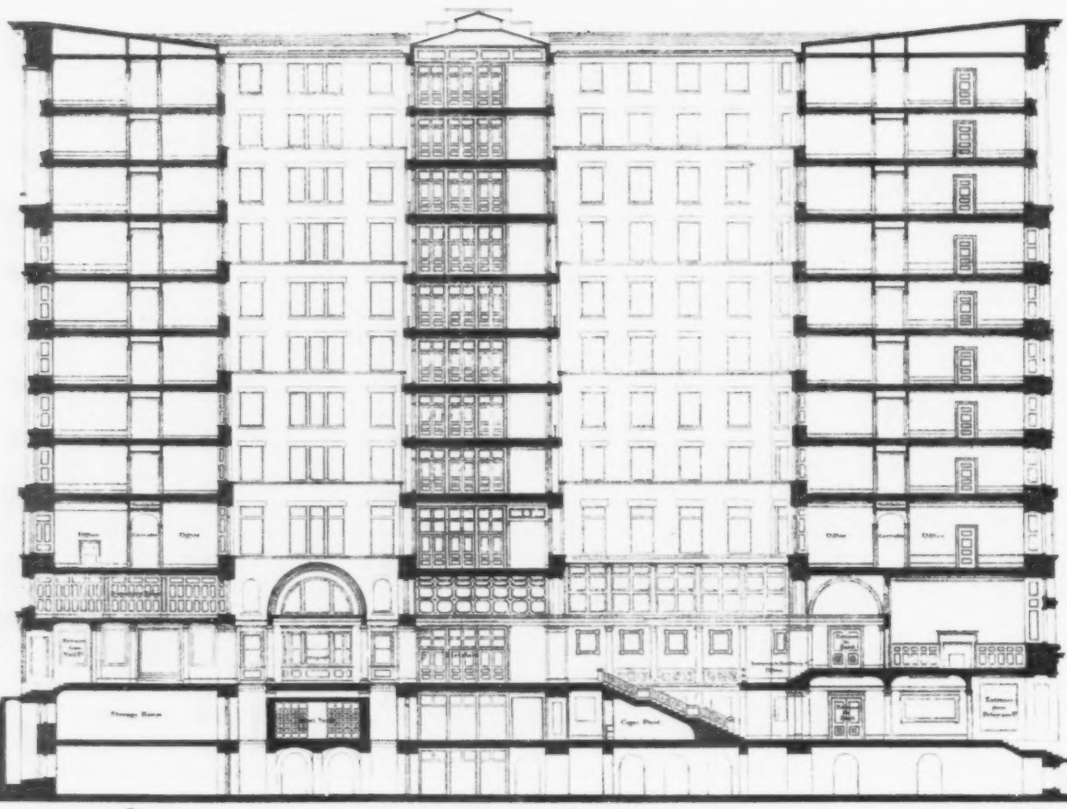
OFFICE BUILDING AT KANSAS CITY
FOR THE
NEW YORK LIFE INSURANCE Co.

First Storey Plan



Section thro Entrances on Wall & Delaware Streets
looking North

OFFICE BUILDING AT KANSAS CITY FOR THE NEW YORK LIFE INSURANCE Co.

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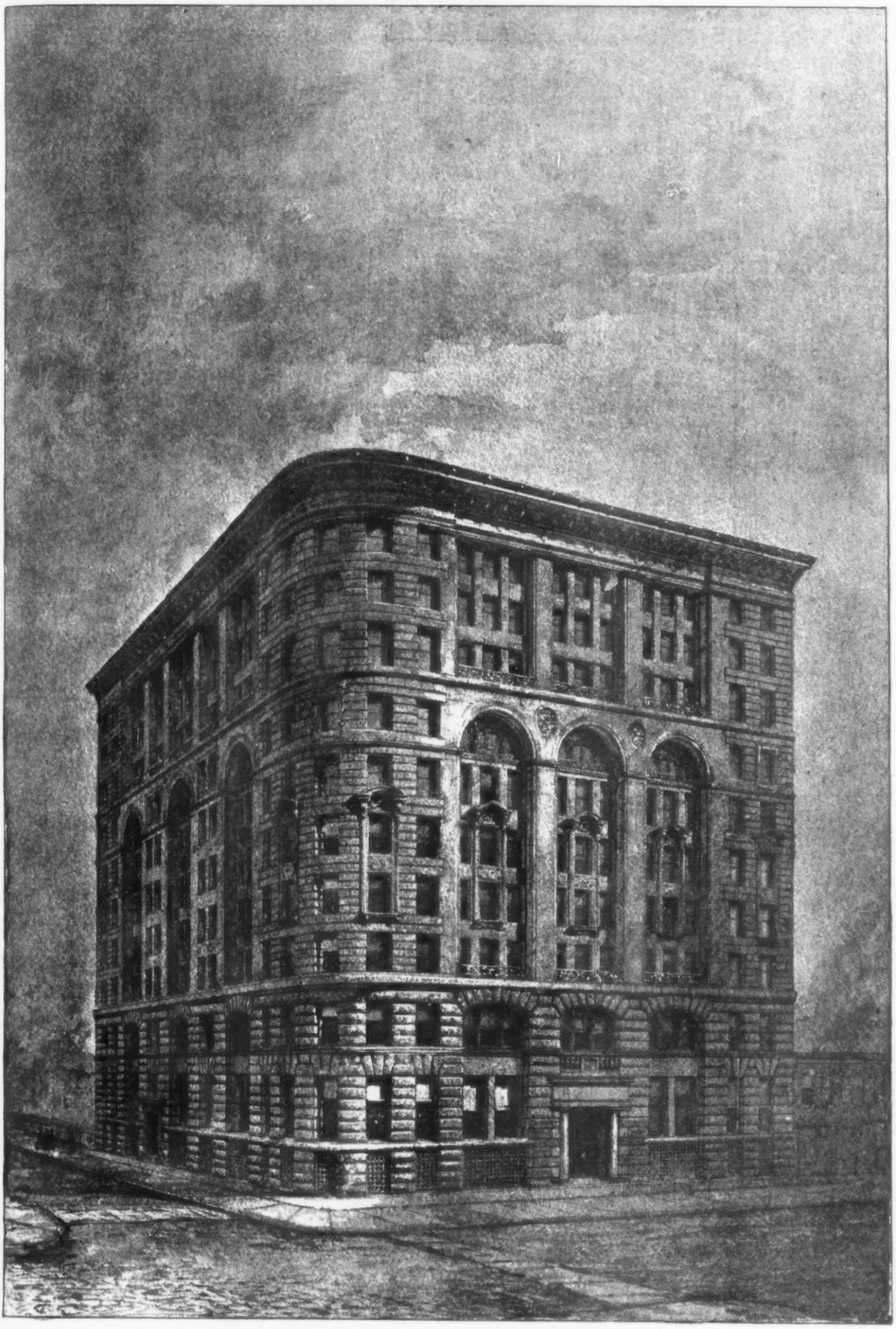

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COMPETITIVE DRAWINGS

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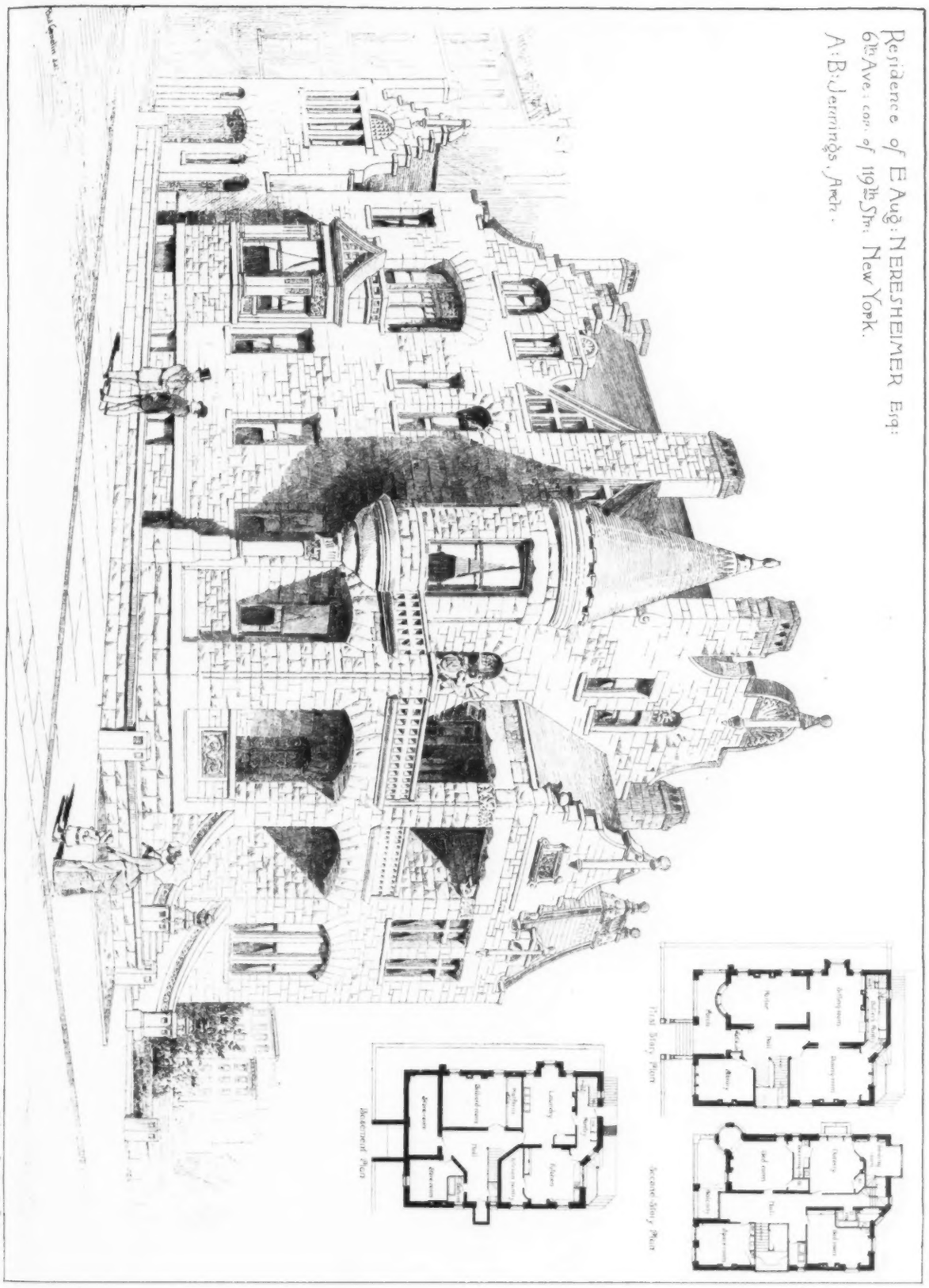
Residence of E. Aug. Neresheimer Esq.
6th Ave. cor. of 119th St. New York.
A. B. Jennings, Arch.
Basement Plan
First Story Plan
Second Story Plan

suggested a column still more slender than the Ionic, and a capital still more elaborately and delicately embellished.

In all this there is as much reasonableness as there would be in saying that Æschylus composed his tragedies on the model of men, Sophocles on that of women, and Euripides of girls; or that Shakespeare draughted Macbeth, the Merchant of Venice and Midsummer Night's Dream, upon similar principles.

All such theories are factitious and absurd; but they did not spring up independently of a root in a true analogy. The style of the Doric column may be justly called masculine, and when we meet with it in some of its debased forms, we are involuntarily prompted to characterize it as emasculated. The very same epithets by which we express admiration for feminine grace, rise to our lips when we become enthusiastic at the aspect of the Ionic porticos of the Erechtheum, as naturally as when we are contemplating the very figures of Attic virgins who are architecturally adapted on the southern side of the temple. Nor is it merely in general effect that we are influenced by these analogies. It is impossible not to feel in contemplating a Doric column, a certain sense of sympathy which depends upon the suggestion of those muscular sensations which we have in holding ourselves erect — of the pressure of our weight upon the foot; of the distinction which is claimed by the upper member of the human column, the head, as by the capital of the architectural column. It is in virtue of this analogy far more than from any functional propriety, that the capital of the column claims special elaboration. In the intercourse of man with man, the eyes are directed to meet the eyes, to regard the face of an interlocutor; the rest of the figure is left to a general impression, and so corresponds in effect, if not in specialized treatment, with the simple uniformity of the shaft.

Many of the general associations, therefore, which cling to the idea of the human figure, fly spontaneously to cluster about that of the column. In the capital, shaft and base of a Corinthian column, we in a manner unconsciously, that is, without direct recognition of the influence which we obey, are impressed by the general relations of the face, stature and feet of the human figure. So far the elaboration of the capital satisfies unacknowledged sensibilities, as answering to the presentation of the most delicate features, the most varied play of expression, the most refined outlines, the seal of culminant interest.

Quite as naturally and spontaneously do associations with the vegetating life around us transfer themselves to the column which — generally always — presents itself as a type of the plant life that rising — and rising with gradually decreasing girth from the solid ground, crowns the stem at last with "the bright consummate flower." Again in this cresting summit, we find the greatest variety and delicacy of form and outline, and then especially the enrichment of color in the most conspicuous display.

How far variety and brilliancy of color may be introduced with artistic advantage in the capital of a column, is not to be decided apart from the details of each particular case. But it is here that assuredly the analogies with general nature may be regarded and studied to right purpose. Nature is most lavish in the diversity of colors which she distributes to associated stalk, leaves and flower; but in no instance are we shocked by a discord. In consequence if we can only refrain from confusing generalities with particulars, there is no opportunity more instructive for the study of harmonious combinations of tints. A bed of nasturtiums in full bloom is at this moment in view. The petals vary from lightest yellow to deep scarlet, and the leaves and stalks connected with each variety — green as they are in every case — vary in each with a certain special and very positive conservation of harmony. The same applies to all the varieties of roses in a rose garden, each having its peculiar stain for leaf and stalk.

The moral of the lesson may be most effectively pointed by the indication of where and how architecture has been betrayed into an error and gone wrong in dealing with color. It is not necessary to refer to the buildings which supply the illustrations. Colored building materials, colored marbles especially offer great temptations — nay, let us say, offer fair inducements to attempts to snatch a grace which will relieve and enliven monotony of general tone. The old cathedral builders in England had their Purbeck marble, which they made use of for tall shaftings and secondary pillarets; and they rejoiced in its color, texture and polish without much thought as to how it would resist the affinities certain to be brought into close contact with it by condensed moisture. Very pleasing relief and graceful effects are obtained by clustered columns in this material; but still as it was introduced, a discord was brought in with it. We persuade ourselves to disregard this out of respect for the beauty around, in comparison with which it is but a trifling drawback. Still in frank honesty we must admit that a harshness there is in the sudden break between the dark and polished material of the ornamental features, and the cold, dull whiteness of the more solid and general structural masses.

The sentiment will be awakened that when so much has been done in the way of enrichment by color and polished surface more ought to have been done to sustain and justify it; if more could not be done because costliness was a difficulty, or from no other material of varied color and susceptible of ornamental treatment being available, then it seems that it would have been more consistent to apply such material as was at command less ostentatiously. The same observation is apt to be forced upon us not unfrequently at the present day. Among the beautiful materials which architecture has recently availed itself of with eagerness are various colored granites — as the ruddy Aberdeen and others, as well as marbles and porphyries. The quarries furnish monoliths of almost any required magnitude, and the temptation is naturally great to make them available for the shafts of columns, free or engaged, of very considerable size. But a mistake is committed in the first instance, whenever an appearance is allowed that so much reliance for effect has been placed upon either mere magnitude or the attractiveness of polish, grain and color that further studious refinement might be dispensed with. This is dismally the case when the shaft of what puts itself forward as the column of a Classic order is treated as simply cylindrical from bottom to top, or, at most, as the frustum of a tall cone, betrayed by the inclined lines of its profile as justly right lines. The very same unsatisfactory effect which the Greek precluded by the invention of entasis, that sense of unpleasant tightness or precariousness of direction appreciable by the eye, tells still with its original repulsiveness. This is aggravated by the observation that something which we have been accustomed to has been left out — left out, also, as it seems, from considerations of cheapness and economy of study and of labor — and these considerations are never more offensive because never more inconsistent than when stinted upon a material which in itself is lavishly expensive. Ovid says of the columns of the palace of the Sun, "The workmanship surpassed the material — "*materiem superabat opus!* This may be unnecessary, in some applications it is even absurd, but assuredly the richer the material is in any art, the more incumbent is it on the artist to show himself worthy of it, and not to efface himself as either content to rest claim for admiration on the crude material which he supplies, or to admit his inability to do it justice.

It is upon an identical principle that we recoil from another incongruity; this is when we find polished granite or marble shafts of columns surmounted by capitals carved out of an inferior material and on bases of the like. We have not far to go, at least in London, for striking examples of such anomalies. In some instances, this ill-mated material declares itself disastrously amenable to "skiey influences," splitting, exfoliating, disintegrating under frost, moisture and an urban sulphur-charged atmosphere. The contrast with the perennially durable shaft is the more gross because that architectural member which is to be more delicately carved and moulded has ever preferential claim to a material which will preserve its surfaces and edges. And here we are brought back to the topic of the due relation of the capital of a column to its shaft in respect of elaboration and embellishment. What can be more properly styled an architectural solecism than a dead-white capital of any Greek or Roman order whatever upon a colored polished shaft? Yet nothing, it is sad to say, is more frequent within sweep of a not very extended radius upon a centre in St. James's Square. The capitals are of the same materials as the entablature, and the attic bases as the stylobate, and, in consequence, both from differences of color and material together, the shaft appears detached from its own complementary members, or, at best, has the air of an intrusive substitution.

The re-discovery of the Numidian quarries so appreciated by the Romans has furnished very beautiful monolith shafts for the reconstructed hall of the National Gallery. The Corinthian capitals of these are of white marble. We may be well satisfied with the grace and delicacy of the carving, and may agree to pass the question whether this delicacy is quite so fairly treated as when it is supported by the delicate right-lined flutings of the shaft, which are omitted here. But what the capital which surmounts such a shaft most surely demands is a certain decision, nay, strength of color. Brass, if not gilding, bronze, at least, if not brass, would be a relief; it is even a question, considering the strength of the color of the monolith shaft — its strength and variety — whether details in colored enamel would not be admissable. The eye of the Ionic capital received such enrichment in antiquity, and a Corinthian capital, as more ornate, may claim such heightening tints with still more reason. So, again, in regard to the bases of the columns, we may in full consistency require if not brass or bronze, or marble which shall carry the appearance of solidity at least equal to that which it supports, and again affording a not inharmonious transition of color.

"But into what dangers would you lead us?" it may be objected. The argument as pursued so far would naturally lead on to demanding the application of color to the entablature. It is even so, and if the colored monolith shafts are ever to be so far harmonized as to blend into a consistent whole, the entablature also will require to be dealt with. When this has been attempted, the function of the critic may be resumed. In the meantime, one observation may be made in conclusion.

The architect who deals successfully with color will be endowed with the eye of an accomplished painter, and in any case he has to deal with light and shade, with cast and reflected shadows, as well as with perspective, outlines, sky-lines, profiles. It is as a picture that his work will at last, when executed, present itself to the world, and no picture is likely to excite admiration in which strong colors are unsupported and unrelieved by contrasts and gradations in proportionate distribution.

W. WATKISS LLOYD.

THE PASSING-BELL. — The idea that the sound of brass and iron has power to put spirits to flight prevailed in classical antiquity, from which it was, perhaps, inherited by Mediæval Christianity. This was the intention of the passing-bell. — *Chicago Living Church.*

PARIS GOSSIP.

OLD KNOCKER AT BARCELONIA

EVER since my last letter Paris has been empty and uninteresting. Everybody had gone to breathe the fresh air in the country or at the seaside. Now things are changed. Everybody is coming back, and life begins again. The Exposition des Arts Decoratifs at the Palais de l'Industrie, which had during the vacation season a melancholy air, has been quite animated for some little time. I did not mean to speak of it again, for I found there nothing really new. The real Museum of Decorative Art, open all through the year, with its pavilions thrown into communication with the present Exhibition, is alone interesting and artistic. The rest is only an agglomeration of all possible industrial products which are more or less connected with art. There is much furniture, and in general of an excessively complicated composition and in bad taste. It is quite time to return to more simple designs; but how many people think that the more colonnettes, balustrades, figures, consoles and garlands or other ornaments there are on the piece of furniture, the more artistic it is. I have seen people go into ecstasies over armchairs upon which it would be quite impossible to rest a head or an arm, so surcharged are they with sculpture. There are, however, some good things to be seen. All the returning Parisians make a visit to this Exhibition, which is the only thing of interest at the moment.

The theatres are opening with much advertising. Since the lamentable catastrophe at the Opéra Comique last May, all the managers decided to carry out the most indispensable of the alterations necessary to assure the security of the spectators; but since that time how ideas have already changed, and how largely Parisian carelessness and light-heartedness have recovered themselves. During the month which followed the disaster, Paris was like one overwhelmed. All the journals demanded prompt and severe measures to prevent the recurrence of such disasters. A commission was immediately named, which unfortunately exaggerated the ordinances by demanding impossible and useless things. What would have been sufficient was to cause the ordinance of the 16th of May, 1881, to be respected, with which no director had exactly complied. We have now in every theatre iron curtains, which are lowered several times during the evening. The free spaces have been enlarged, the doors open outwards, and finally the electric light replaces gas.

The same journals which after the burning of the Opéra Comique loudly demanded guaranties of security, now find that the commission is ridiculous, and bandy about witty sayings on the measures taken. The iron curtains especially excite their mockery. It seems to me, however, that this can be the most important aid and the most practicable means of preventing the auditorium being immediately invaded by smoke, which is the principal cause of death in all these disasters. It has been demonstrated that it was smoke at the Opéra Comique which asphyxiated the spectators and extinguished the lamps in the corridors, throwing everything into obscurity; so that eighteen persons, no longer being able to see their way, found themselves in the bar-room in the second story, where they perished by suffocation, although a staircase was within a yard of them.

Finally, each theatre in Paris now pretends to be the safest in case of fire, even the theatre of the Palais Royal, whose exterior, with its balconies at every story connected together by iron staircases, looks like a huge iron cage. These balconies, by the way, would be only useful on the condition, quite impossible in case of a panic, of not being seized on by the crowd, The staircases which connect one balcony with another are narrow, and can only give passage for a single person: far from being a safeguard, they will probably become a source of danger. This is evidently a very costly exaggeration of the Commission on Theatres, as was the suppression of the automatic rising seat of the orchestra chairs. This system, on the contrary, ought to have been insisted on in all theatres for the orchestra chairs and those in the balcony.

To pass to a subject quite different, I will say a few words of the fine monument erected to the memory of M. A. Thiers, which was unveiled on the 3d of September, the tenth anniversary of his death. This structure, which Mlle. Dosmes, sister-in-law of M. Thiers, has erected, is placed in the cemetery of Père-la-Chaise at the right of the chapel. It occupies an area of one hundred and forty-five metres, and has a façade nine metres in length and fourteen metres in height. The architect, M. Aldrophe, encountered great difficulties in consequence of the ground being a bed of clay, which obliged him to dig pits twenty-five or twenty-seven metres deep. The monument, very important in itself, is an assemblage of sufficiently commonplace motives, but the details are finely treated and well studied. It is composed of an archway, which forms the entrance, upon each side of which rise two Corinthian columns resting on a socle and bearing an entablature ornamented with modillions and dentils. The entablature supports an attic, which at the centre disengages itself, framing in a tablet of green porphyry, which bears this legend in gold letters, "*Patriam dilexit veritatem coluit.*" A flight of nine steps leads to the bronze door, which was executed by Barbédienne, and is crowned by a magnificent bit of sculpture by M. Chapu, which represents the Genius of Patriotism defending France. In the tympanum of the arch are two genii, which represent Science and Literature, which are due likewise to the same chisel. The lateral façades of the building are ornamented with Corinthian pilasters. Two arches with bronze grills serve to admit light to the interior. This, which I had not the good fortune to see, is, it appears, very rich, and decorated by the sculptor Mercié, with genii representing History, Eloquence, Science and Literature. Two bas-reliefs by M. Chapu, representing the liberation of the territory and the Genius of Immortality. There still remains to be set up a group five metres high. The tomb of M. Thiers is placed in the crypt, to which access is had by a staircase of thirty steps.

The Academy of Fine Arts on the 1st of October decided an important competition. The biennial prize of twelve hundred francs, founded by Madame Tryon in remembrance of her son, a famous landscape-painter, was the matter in question. The subject of the competition this year was "a water-trough at the edge of a wood at twilight." Forty-four artists took part in the competition.

Almost all the canvasses were interesting, showing much talent, but not answering very well to the requirements of the programme. In general, the skies were bad; the evening effect in most was entirely lacking. Some even presented mid-day effects in full sunlight. All the same, the decision seems to prove that the jury was influenced rather by the composition than by a strict interpretation of the programme. There ought to be some understanding in such a case. If the evening effect is not to be insisted upon, why say anything about it? "A watering-trough placed at the edge of a wood" would have been quite sufficient. A pupil of M. Paul Sain, M. Raymond Moisson, obtained the prize. M. Moisson added a village to his little wood. The painting is very agreeable, very well composed, and the wood required had more importance than the adjoining village, but the evening effect, where was it? I saw plainly enough an orange-colored cloud on the horizon, but that might as well be a morning effect. The trees are a little scant, not clearly enough massed, but confused. Aside from this, it had much atmosphere and light.

The first mention was accorded M. Louis Laurent, pupil of MM. Bin and Maignan. In this, the landscape is too elaborate; the evening effect is beautiful; the horses and cows in the foreground are not in their proper planes, but the background is pretty and very luminous.

I confess that I do not understand the second mention awarded to M. Lesidaner. His composition is careless and uninteresting. There is evidently an effect of the setting sunlight which one rarely sees. This is true enough, but something else than this was necessary to receive a mention. My opinion is that the judgment is a mistaken one, and I have been much pleased to see that this opinion is partaken by several of our masters of landscape.

One canvas was far above the rest. It answered the programme absolutely, was full of sentiment, and had a ravishing effect of twilight, and gave that sweet and melancholy impression which precedes the fall of night. It was the work of a pupil of MM. J. P. Laurens and Gobert, M. H. C. Renard, whom I have not the honor of knowing, but whom I take pleasure in naming, happy to be able to protest in his favor against the decision.

M. Brincourt.

REPAIRING ROOFS IN NEW MEXICO.

A CORRESPONDENT of one of the daily papers, writing from a point in the extreme Southwest, presents an interesting story of how roof-repairing is sometimes accomplished in that part of the world. While there is very little that is technical in what he says, there is much that is interesting, and it will serve to pass the time of noon hour during one of the hot days now prevailing; accordingly we print it in full, says the *Metal Worker:*

If the ceiling of any room becomes discolored with smoke or otherwise loses the white purity which must always distinguish the interior of "a room for rent," the same native has a remedy which is as effective as it is novel. He takes down the ceiling, puts it in the wash-tub, and after thoroughly cleansing it restores it to its proper position. As leaks in roofs necessarily have a close connection with room ceilings, I simultaneously gained my knowledge of both occult remedies during a rain storm the other night. When I came here I found that nine-tenths of the population lived in rented rooms, and that I must do likewise, unless I wanted to pay $17.50 per week for board. So I hired a spotlessly white room in a doby, and went to bed in one corner of it, without thinking for an instant that I would be inconvenienced by the heavy rain-storm prevailing. I changed my mind about midnight, when a stream of water worked its way through the mud roof and dropped squarely down on my head as I lay sleeping in bed. I got up at once and prosecuted a search for a match, while another stream played on my back. I lighted my lamp, and then saw about a dozen streams were coming through the ceiling. As my room opened on the road, after the manner of all Mexican dobies, I was compelled to dress myself, fish an umbrella out of my trunk, and go out into the storm to get into the next room, where my aged and Celtic landlady reposed.

"An' has that roof bruk loose agin? Well, now jest wait a brace o' minits till I get some clothes on, and I'll come to ye," she said, as she opened her door in response to my exasperated knocks. In four minutes she immerged into the storm, carrying two lamps, and rushed into my room. First she lighted all the lamps and put them around the room so as she could see well to do the work ahead. A glance

at the scene of action, a vigorous oath, and a plunge at the bed followed in quick succession. She put the foot-tub to catch the stream of water that was wetting the bed clothing, glared at me reproachfully, and then went to work. From the bottom of the wash-stand she brought forth a string and about three feet of an old broom-handle. These articles, it seems, are always kept ready for use in every doby house in New Mexico. Dragging the table to the centre of the room, my landlady put a chair on it and said, with business-like sharpness:

"Now, young man, 'spose you jest turn your back around entoirely." I faced about and the old lady scrambled to the table and thence to the chair. When I looked slyly over my shoulder she was bending a pin at right angles between her teeth. She then tied the string to the pin and reached up to the ceiling and stuck the pin in. I was startled to see the ceiling bulge downward, and then, for the first time, perceived that instead of being white plaster, as I had supposed, it was of white muslin. Having attached the pin so that it would not slip, the landlady leaped down with the other end of the string in her hand. To this end she fastened the piece of broom-handle and left it swaying gently before my eyes.

Heedless of my questions she seized a broom and went around the room gazing critically at the ceiling. Here and there were little blister-like protuberances, where the water had accumulated in little pockets. Each of these the woman pushed upward until the water ran toward the lower level around the point where the pin penetrated the muslin ceiling. The weight of the wooden stick on the end of the string, of course, pulled the muslin downward, making a hollow over the centre of the room large enough to accommodate all the little pockets. When the water had thus been accumulated in the central reservoir, I saw a small stream flowing from the end of the swaying broomstick.

"All the water will run down to the pin now, me dear, and thin down the string to the broom-handle, and thin down the broom-handle to this bucket, and thin you'll have no more trouble ef you'll jist keep away entoirely from against the bucket," announced the woman oracularly. It was even so. When she had put dry clothing on my bed and left me I turned in again and went so sleep in comfort under a roof that was full of holes. In the morning the bucket placed just under the pendant broom-handle was full of water, but the room was thoroughly dry. By daybreak it cleared up, and the woman's "man" was shoveling an extra cart-load of earth on the roof of my room.

"Now, Peter," I heard her call to him, "jist take and sow half a bushel o' grass-seed there, so that we will have a fresh sod before the next rain comes." Peter sowed the grass seed while Peter's wife took down the muslin which had been pasted around the edges of the ceiling. She took it away and washed it, and bringing it back soaking wet, pasted and tacked it into position. When I asked why it was not dried before being put up, she said it was desirable to have it wet, so that when it dried the shrinkage would make it taut. An enormous fire dried my ceiling until it was as white and smooth as the plaster of an Eastern domicile. The landlady put away the pin and string and bit of broom-handle in the bottom of my wash-stand, and said respectfully:

"Now, then, young man, if things spring a leak agin you 'tend to 'em yourself, an' don't come arter me. I allers show strangers how to stop a leak once, but I charges extra if they come arter me twict." In two weeks there was an elegant green sward on my roof. The roots of the rank grass form such a compact network that it takes a very heavy storm to wash away enough earth to admit water into the room underneath. For this reason I have escaped a second ducking, and have had no occasion to try my 'prentice hand with the pin and string.

THE INDIANA SOLDIERS' AND SAILORS' MONUMENT.

OFFICE OF THE BOARD OF COMMISSONERS OF THE STATE SOLDIERS' AND SAILORS' MONUMENT, INDIANAPOLIS, IND., November 1, 1887.

BULLETIN NO. 3.

TO COMPETITORS:

1. The Board of Commissioners, in answer to inquiries received, desire to state that no envelope disclosing the name of any designer in the competition for the State Soldiers' and Sailors' Monument design, will be opened till after a decision is reached, whether any design is premiated or not.

2. A competing firm writes: "We notice also that the code says: 'In any case the supervising architect shall be paid a commission of five per centum, etc.' We understand this refers to the architect whose design shall be premiated."

Answer, — The passage quoted refers to the author of the design selected, if it proves to be a design by an architect. The attention of competitors is again especially called to the paragraph beginning at the bottom of page 9, of the "Instructions, etc.," and continued on page 10, and relating to the appointment of supervising architect or sculptor.

3. A competitor writes: "I expect to submit to your commission a sculptural design and feel that any drawings of the subject would be weak and unsatisfactory. Is it permissible to submit models of statuary and bas-reliefs? And if not, will it be permissible to submit photographs of such models, sealed with sketch or design."

Answer, — It would not be permissible, since the Commissioners could not undertake the impossible task of making a fair comparison between a set of drawings and a set of models, or of photographs. The question now before the Commission is in regard to what shall be the general composition and design of the structure, and it is to solve this question they seek to obtain the sketches and suggestions of architects and sculptors alike. The sole object of the present competition is, as stated on the second page of the Instructions, to enable the Commission to determine the general character of the monument to be erected, and if possible to select an architect or sculptor. To permit photographs or models of statuary, bas-reliefs, etc., to be submitted in the competition would be confusing, and would only bring prematurely before the Commission exactly those questions of relative merits of details of statuary, etc., that the Commission wish at present to avoid. To decide upon those questions and merits will, as the Instructions expressly state, require the appointment of special experts, when the proper time comes, to select and decide upon those details. Even if a design should consist merely of a group of sculpture, what the Commission first wish to know about it, is its size, proportions, subject, and its relations to its pedestal and other accessories. It seems necessary also, to recall to competitors that the Commission will not in this competition receive tenders of contract or proposals to execute the work. Sculptor's estimates may be in such form as will seem best adapted to give an accurate idea to the experts, of the proper cost of the work according to their designs; but their estimates must conform to such figures as they will contract to execute the work for, under proper bonds.

4. An architectural firm writes: "You have already selected ten men in the profession to make designs; now if you can in any way assure us that we would have an even chance with these ten, and that the selection of the ten shall make no difference in the decision, we would like to submit a design."

Answer, — The Commissioners and the experts will not know, and do not wish to know, whom any design is by, before a decision is made. Should any competitor seek in any way to convey information to any Commissioner, or to any member of the Board of Experts, how to recognize that competitor's design, that design will be thrown out of the competition. The ten architects specially invited to furnish designs will stand exactly on an equal footing with all others in the competition.

5. The question has been asked, "How many names do you wish on the memorial tablets, etc."

Answer, — The Commissioners cannot answer questions such as this. Competitors are referred to the last paragraph on page 3, of the Instructions, by which it will be seen that the Commission cannot, now, entertain questions of the details of designs.

GEO. J. LANGSDALE, *President.*
J. F. GOOKINS, *Secretary.*

COMMUNICATIONS

MORE INSTANCES OF DRY-ROT.

BOSTON, November 5, 1887.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — The cases of dry-rot in timber submitted by Mr. Hatfield are interesting, but this danger may be incurred from a much less apparent cause than those which have yet been given.

My attention was first called to this danger in a mill building built by a corporation of which I was treasurer. It was in two sections, each intended to be leased. The first section was leased as soon as finished, and the heavy Southern pine beams were immediately painted. The second section stood for three years unfinished, even the floors not being laid. The beams belonging to the same lot as those used in the first section were thus left for three years *unpainted*. This second section was then leased in connection with the first. Some changes being called for, it was found that the beams in the first section were nearly all in a dangerous condition from so-called dry-rot. Nearly all had to be taken out. The beams in the second section, which had been left unpainted, were perfectly sound, and are in that mill to-day in good condition. This incident occurred more than twenty years ago.

Another example came under my own observation in another mill which was under my charge, but which was not constructed under my supervision. In this mill, the beams of the several stories butted together; a cap was placed underneath the beam to receive the top of the post below, and an iron base was placed on the floor above to receive the lower end of the next post. Thus the ends of all the beams were subjected to the full weight of the floors and their contents above. Under this compression the seasoning of the timbers was impaired, and after many years we discovered that so-called dry-rot had affected the ends while the middle parts of each timber were perfectly sound. This, again, rendered heavy repairs necessary. I know of many other similar cases in factories.

Within the past year I have gone through two large buildings, admirably constructed, with "factory floors," so-called; *i. e.:* heavy timbers set wide apart and plank floors. In one of these buildings the beams had been *varnished* and in the other they had been *painted;* both had been erected under the supervision of skilful architects,

but for lack of attention to this simple point they would have come to grief within three or four years had not the attention of the owners been called to the fault. The timbers were at once scraped free.

May I suggest that you procure and print again a scientific explanation of what is known as "dry-rot?"[1]

I understand it to be a fungoid growth, generated by the fermentation of one of the elements of timber while in a *moist* or green condition. It would, therefore, seem to be misnamed when called "*dry*-rot."

In the case mentioned by Mr. Hatfield of the posts and girders of the warehouse which had been covered with plaster and cement in order to make them fireproof the sinner was doubtless the *cement* and not the plaster.

In many cases we have advised the fireproofing of ceilings and timbers by the application of a rough plaster, without any skim-coat, laid on wire-lathing, a space being left in the walls around the ends of the timbers for the air to circulate. There is one example of this construction within a short distance of my office in which this protection has been upon the timber nearly twenty years. A few years since I requested the owners to uncover some parts of the timber in order to ascertain its condition. It was perfectly sound, thus proving that we were right in advising the use of rough plastering without any skim-coat of lime-putty and without any cement admixed therewith. The rough plastering being porous did not prevent the seasoning of the timbers. Yours very truly,

Edward Atkinson.

THE RECOVERY OF PLANS FROM A CONTRACTOR.

New York, November 5, 1887.

To the Editors of the American Architect: —

Dear Sirs, — We have read the inquiry of "Haste" and your reply upon the recovery of plans from a contractor, and would suggest that we have found the rule which we adopted several years ago as quite effective to that end.

We insert a clause in our contracts, requiring the contractor to return *all* drawings and specifications to us before our issuing the final certificate upon the contract for payment by the owner. We further require the contractor to sign receipts for any and all drawings and specifications given or sent to him, returning those receipts, signed by us, to him upon his delivering the plans, etc., at our office.

We have carried out this system for a number of years, and find it very successful, not only in securing the return of our plans, etc., but in keeping trace of them and proving their delivery in cases where assertions have been made that they had not been received by the contractors or other mechanics.

Very truly yours,

McKim, Mead & White.

A LAYMAN ON COMPETITIONS.

THE following letters explain themselves. They are given *verbatim*, the names only of persons and places having been omitted.

"October 11, 1887.

"*Dear Sir,* — Our 'Society . . .' propose to erect in our city a monument to . . . We do not know exactly what we want, and wish the views of various artists and sculptors in competition for the honor of erecting it 'regardless of expense,' and Mr. —— has very kindly suggested that you could give me the names of various sculptors, etc., to whom I could write, inviting them to send us models and suggestions before the 15th November. Will you do so? If you can give us such names and addresses, it will greatly oblige the Society and especially, yours very truly, ——."

"October 13, 1887.

"*Dear Sir,* — Your favor of the 11th inst. is before me. I find it difficult to reply to it, and I must beg of you to believe me that what follows is not said with any sensation of pleasure, but solely from a conviction that it is right.

"Your letter is a sad instance of the lack of understanding of art, of the thoughtlessness concerning everything pertaining to it, that is, unfortunately, the rule among us. If the matter ended there, if we, having really no understanding of art, simply left it one side, utterly ignoring and neglecting it, there would not be much to say upon the subject. But no — we would *seem* to be what we are not, and there is where the wrong begins.

"I have neither the time to write, nor would you probably have the patience to read, a long dissertation on this fruitful theme. I must, therefore, content myself with calling your attention to one or two points.

"You are probably not aware that this question of competition is a burning one with all artists, not only here, but also in Europe, yet more so here than elsewhere. Much has been written upon it — the scandals caused by competitions are endless — the pain and the mortification that have grown out of them for true artists are grievous. The matter has come to such a pass that hardly a self-respecting man or woman will engage in an ordinary competition, and — pardon me for saying so — the one you propose seems to be of the *most* ordinary kind!

"Consider, in the first place, the time you propose to allow your competitors! Your letter is dated October 11, you have not yet announced your competition and found your competitors, and you want your 'models and suggestions before 15th November!' That would leave, say, three weeks at the utmost to evolve out of the mind, and put into tangible shape, a great work of art which is to carry the fame of the hero it is to glorify and of its author down to eternity! Have you truly considered this? Do not say that you ask *only for sketches.* In the first place, mere sketches will serve neither you nor the artists, for we laymen have a pronounced faculty for misunderstanding them. But this question aside, must not the sketch contain all the *intellectual* work that will make the monument great, leaving room only for possible refinements and the cunning of the hand? But as we are all, or most of us, workers for a profit only, we have lost the faculty of understanding the artist, who is cast in a different mould. Hence the work of art is for us no better than any other piece of manufactured goods that can be turned out to order at short notice, with perhaps this difference in its favor, that it is of a higher grade. But, what constitutes this difference we would be at a loss to define. Now here is the first point: The curse, or rather one of the curses, of our competitions is the insane haste in which the artists are asked to produce. If you gave them a year instead of a month, the time would be none too long.

"But, even supposing that you were willing to give the necessary time, the iniquities involved in your prospective proposal, as your letter discloses it, would still be far from being exhausted. What right have you to ask men to do work for you without compensation? Would you, as a lawyer, consent to outline the defence in a case at law, naming all your authorities and precedents, etc., in competition with half a dozen other lawyers, and then leave it to your client, who knows nothing of law, to decide? You would not do this, quite likely, even for money, and if any one were to ask you to do it at your own risk — have you thought what might possibly be the consequences? To be sure, you can fall back here upon the precedent of a thousand past competitions, but a thousand wrongs do not make one right; and, as I have told you before, artists are sick and tired of such attempts to fleece them. The consequence is that most of those who nowadays enter the lists under such conditions are either incompetents, or schemers who depend upon influence.

"To get through more quickly with the rest of this matter, let me ask a few questions:

"Where is your monument to stand?

"What amount can you positively promise to expend upon it?

"Who are to be the judges in this competition?

"You will answer that these are matters for future consideration, and that they are (with the exception of the third), as a rule, left open. True — and more's the pity. The result you see in the monuments about our cities, most of which are a laughing-stock or a source of mourning to all beholders, according to their individual frames of mind.

"You say your monument is to be put up 'regardless of expense.' I will take you at your word, and will show you how to lay out your money to good purpose. The first thing is not to begin wrong by being stingy at the least opportune time. Try, then, for once, to have a *decent* competition. To arrive at that much-to-be-wished-for result, it would be well to proceed as follows:

"Select four, five or six sculptors, the best, of course, you can think of, according to the lights you have, and *invite* them to compete.

"After consultation with these men, fix upon the sum each is to receive for his model, the pay, of course, to be alike, and the conditions of the models, also, to be alike.

"Likewise upon consultation with these men (or women), fix upon the place where your monument is to stand, and the sum to be expended upon it. Both these questions are vital, and the first no less than the second. It is ridiculous to design a monument without reference to its possible surroundings, and if we were not the barbarians we are, such a thing could not occur.

"Again, in consultation with your proposed competitors, select your jury. Artists will not submit, and ought not to be asked to submit, to the snap judgment of people who not only know and care nothing about art, but who do not even know what they themselves want.

"Now publish your scheme in all its details, and throw open your competition to all the sculptors of the country; that is to say, allow any one to send in models who chooses, under promise that, if any of the models so sent in should be chosen, the same compensation will be given for them (the models, however, to remain the property of the respective competitors) which is paid to the invited competitors.

"All this relates to the *first* competition. Now comes the *second* and final competition.

"Out of all the models sent in by invited and voluntary competitors, three are to be selected for the second competition.

"Give to the authors of these three models another year (or, at least, six months) in which to make their final models.

"From the three models resulting, select one for execution (provided, of course, that it comes within the money limit previously agreed upon).

"To the successful contributor award the contract and the control of the work.

"To the others give consolation-prizes of equal amount.

"If you carry out this plan, your association will make a name for itself, and will be honored as having been the first to reform the

[1] Such an explanation will be found in the *American Architect* for May 9, 1885.

abuses now prevalent in such matters. If it should be in my power to aid you in carrying it out, my services are at your command. Your plan as it now stands, I can have no hand in, not even by naming such poor devils of sculptors as might possibly be willing to submit to the indignities it involves.

"Pardon me for writing so freely. If you are really interested in art, and wish, in this special case, to assure a satisfactory result by honorable means, a few moments of consideration will convince you that I am right.

"Believe me, dear sir, very truly yours, ———."

As no response came to this letter, it may be assumed, that it produced no effect.

[THIS correspondence is the more interesting as it passed between laymen, though, as may be supposed, the respondent is one known as deeply versed in all that relates to art.—EDS. AMERICAN ARCHITECT.]

THE COMMISSION ON BUILT-IN MANTELS, ETC.

BRIDGEPORT, CT., Oct. 28, 1887.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs, — Will you kindly inform me whether the regular architectural commission of five per cent for residences includes the pay for designing and making working details for mantels, sideboards, built-in buffets, etc.?

By answering you will confer a favor upon SUBSCRIBER.

[THIS is a point about which there is much diversity in practice. Many architects charge the regular commission on the cost of the building alone, and ten per cent or more on the cost of the mantels and other fittings. Even in the case of the largest buildings, and for residences, unless very large, five per cent on the cost of building and fittings together cannot, certainly, be considered remunerative. EDS. AMERICAN ARCHITECT.]

GRAIN OF CHESTNUT DOORS.

NEW YORK, November 4, 1887.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs, — Can you tell me through your columns or otherwise, what will conceal the grain in a chestnut door which has been treated already with wood-filler, five coats of white-lead, two of zinc, and two of varnish? Yours truly, W. W. KENT.

[IF the door had been thoroughly rubbed down between coats with pumice stone, the grain would have been covered out of sight before half the number of coats actually applied had been laid on. — EDS. AMERICAN ARCHITECT.]

NOTES & CLIPPINGS

NEWLY-FOUND CARTOONS BY RAPHAEL. — The Russian Professor Shevyreff, who is an authority in matters of art, and particularly known as a student of Raphael, has pronounced a number of cartoons recently discovered in a barn on the Lukhmanoff estate, near Moscow, to be genuine works of the great master. They are sketches for "The Healing of the Lame," "The Death of Ananias," etc., etc., and are said to have been intended for the Gobelins ordered by Leo X for the Vatican. They were bought in 1815 of the Countess Yaguzhinski, by one of the Lukhmanoffs, and have since been lost sight of. The cartoons have only slightly suffered from dampness, and will soon be exhibited in Moscow. — *Exchange.*

THE STATUE OF LIBERTY FOR SAN FRANCISCO. — The San Francisco Statue of Liberty will be by no means such a gigantic structure as that on Bedloe's Island, though its light will be shown from a greater height. The figure and pedestal will be about forty feet high, and it will stand on Mount Olympus, which is about 700 feet above the water. A two-inch gas-pipe passes up the entire height of the pedestal at the centre to the base of the figure, and through it the electric wires will be passed, making their exit at one side of the figure, passing thence along the folds of the robe up to the arm holding the torch. The light, which is expected will be supplied by the city, will be 16,000 candle-power, and will illuminate the entire Golden Gate Park, as well as being visible from the bay, a splendid view of which is commanded from the summit of the mount. The figure is the work of a Belgian artist named Wiertz. He named it "La Troimphe de la Lumière," and intended that it should represent light triumphing over darkness, liberty over tyranny and despotism. It was exhibited at an exhibition in Antwerp, and attracted much attention on account of the vigor with which the artist had treated his subject. Adolph Sutro saw the figure there after having read much favorable criticism of it in the press, and then the idea struck him that it might be an embellishment to the entire San Francisco peninsula. — *Providence Journal.*

WHAT "SATIN WALNUT" REALLY IS. — A few years ago a furniture manufacturer made up some pieces of furniture from red gum, and, wishing it not to be known what kind of wood was used, called it satin walnut. Satin, as applied to walnut, would indicate a finer, rarer wood than ordinary black walnut. A great many people were acquainted with gum. Its plebeian reputation was widespread. It was a cheap wood, and one of the best warpers extant. At that time the idea of putting gum into any but the commonest furniture, and that, too, almost exclusively in the South, was not abroad except in the mind of the man who thought there was a good deal in a name. The extent of the influence of one man's actions may be seen in the fact that the senseless name which a Chicago furniture man gave gum for the purpose of tricking his customers into buying furniture made from it has become a regular name in the Liverpool and London lumber reports. We are kept posted by the papers devoted to the lumber industry over there how American satin walnut is selling; and not long ago an American lumber journal desiring to tell its readers something about the London market because the *Lumberman* had set the example, copied from a London paper a report on satin walnut without informing its readers that the satin walnut it was talking about was nothing but plain American gum, presumably from the reason that the lumber journal was ignorant of the fact that satin walnut is American gum. Exporters may endeavor to pull the wool over the eyes of foreign buyers by showing them as fine-looking samples of lumber as they ever saw, the lumber fine-grained and tough, with a figure on which nature did some of her choicest work, and calling it satin walnut; but it is an effort pure and simple to dispose of a common American wood that grows in the Central and Southern States in great profusion, and is worth at the mill not to exceed from $10 to $14 a thousand, log run. Satin walnut is a name applied to the wood for the express purpose of deceiving. The wood should be known everywhere — at home and abroad — as gum, a name that need not escape the mind of any man, providing he associates to any extent with the maidens of his neighborhood. — *Northwestern Lumberman.*

THE STATE CAPITOL OF VIRGINIA. — The State Capitol at Richmond is the oldest building of the kind in America still used for its original purpose. It was built under the personal supervision of Thomas Jefferson, and is one of the historic buildings of the country. It stands upon a commanding hill and is surrounded by a beautiful grove, with well-kept walks, beautiful with statuary and monuments. Facing the capitol is the governor's mansion. To the right of the capitol is doubtless, the most magnificent and costly group of statuary in the Union. Surmounting a huge star-shaped pedestal of Virginia granite is Thomas Crawford's famous equestrian statue of Washington; and around it on each of the five points of the star are effigies of the Old Dominion's most celebrated ante-bellum soldiers and statesmen. There are Patrick Henry, the orator, Virginia's first governor; Thomas Jefferson; Gov. Thomas Nelson, who fired upon his own residence at the bombardment of Yorktown; Andrew Lewis, the Indian fighter, and John Marshall, long chief-justice of the United States. Inside of the building we find more pieces of statuary — the most celebrated of which is Houdon's Washington — "a *fac-simile*," Lafayette pronounced it. The mask of the statue was taken ten years before the president's death and the statue cast in Paris. There is also a marble statue of Henry Clay, presented to Virginia by the ladies of Kentucky, his adopted State. It will be remembered that his birthplace, "The Slashes," is only about eight miles from Richmond. Besides the statues in the rotunda of the building, there are many valuable paintings of colonial and revolutionary celebrities, as well as those of later times. The majority of the paintings are the originals, and in many instances the only ones in existence. There are, perhaps, the portraits of more great men hung on these walls, men who have made a name in national history, than any other State can boast. There are original portraits of Washington, Madison, Monroe, Tyler, Harrison, Marshall, Jackson, Johnston, the Lees, and a host of others whose names light up many a page of history. The old capitol has been the scene of much that is greatest in the history of Virginia and the South. In the hall of the House of Delegates the trial of Aaron Burr, the brilliant New Yorker, was held, John Marshall being the judge, and the erratic John Randolph of Roanoke, the foreman of the jury. Grouped irregularly around the historic Capitol square are the buildings once occupied by the various departments of the confederacy and the residences of the members of its cabinet. All of them are now used as hotels, stores, or private residences, with the exception of the president's mansion, which was purchased by the Municipal Government, and is used as a public school. — *New York Commercial Advertiser.*

THE GREAT SERPENT-MOUND. — Some unexpected developments have been made at the Great Serpent Mound in Adams County, fifteen miles southeast of this city. Such works have not been supposed to be burial places, but the men employed in excavating and examining a small mound near the Great Serpent have already unearthed ten skeletons in a good state of preservation. These have been boxed and forwarded to Peabody Institute. At the base of what is supposed to have been a stone cairn, and but about a foot beneath the surface, was found the skeleton of a female and child, the former being almost perfect, except the feet, which, it is thought, have been plowed up, as the ground has been under cultivation for several years. The skeleton of the child was all gone except the skull. Professor Putnam and family and a number of employés are encamped on the grounds, twelve tents being required to accommodate the party. The work of placing the grounds in good order is well advanced. The great serpent has been restored to its original form and proportions, as near as possible to do it, and a neat fence, with turn-stile entrances, now encircles this wonderful work. A vast amount of labor has been expended, and much more remains to be done, as the design is to plant trees, lay out walks, etc., and where the unknown people who built this singular mound once trod there will, in due time, be a beautiful park. The same parties that purchased the Great Serpent Mound are negotiating for Fort Hill, another ancient work that ranks among the most important to preserve. Fort Hill is in Highland County, near Sinking Spring, seventeen miles east of Hillsboro, O., and is nearly as great a curiosity as the Serpent Mound.— *Cincinnati Commercial Gazette.*

SOLID SAWDUST. — Parties in Bangor, says a newspaper correspondent, have recently obtained letters patent for the purpose of baling sawdust. I visited their location at Stern's mill, and found them pressing and putting sawdust into nice packages inclosed in burlaps — nearly one half-cord in a package. The power for pressing is obtained from a powerful hydraulic press. In the first temporary trial they pressed and baled fifteen cords in eight hours. This can be increased by increasing the number of cribs to seventy-five cords per day, and at

a very small cost. This material can be shipped to market for less than one-half the amount it will cost to ship it in bulk, and can be delivered at about the same price per cord. There are already orders received from street-railway companies in Boston for sawdust, to be used for bedding for horses instead of straw. It will not exceed one-half the expense, and should all the street-railway stables use it, the 10,000 horses they now have would require more than could be furnished by one press. In addition to this, there are 1,000 grocery stores and 1,100 liquor dealers, and all of these use more or less in packing goods and on floors. There are sixteen markets in Boston, and every floor is covered with sawdust. The amount of sawdust to be procured for the purpose of baling is much larger than would generally be estimated. The State of Maine alone manufactures 600,000,000 feet of lumber, and nearly one-sixth of the above amount is cut into sawdust. By utilizing this material we should find our docks kept clear of that which has been to many owners a nuisance.

Wood Stews in Northern Siberia. — Lieut. Wm. H. Schuetze, in the report of his mission to the Lena Delta, says that we have all had our sympathies aroused by statements that these people (the natives of Northern Siberia), are often, during famines, compelled to resort to wood for food. Now, the fact is that careless observers have simply been imposed upon, or they have jumped at conclusions without caring, or perhaps being able to make inquiries, and because they thought that a statement of these views would make a heartrending page for their books, and by inference show what a distressing time they themselves must have had among such surroundings. Wood, in a certain form, is a most common and constant article of diet on the Lena River, all along the north coast and in the immediate neighborhood of Yakutsk, in fact, wherever the Yakut resides. North of Verchoyansk, except in a few sheltered valleys, it may be said there is no other wood than the larch, and for miles south of the tree-limit absolutely no other. The natives eat it because they like it. Even when fish are plentiful it usually forms part of the evening meal, as the many cleanly-stripped larch logs near every hut testify. They know by experience that the fact of their eating wood arouses the sympathies of strangers, and shrewdly use it to excite pity and to obtain a gift of tea and tobacco. They scrape off the thick layers immediately under the bark of a log, and chopping it fine mix it with snow. It is then boiled in a kettle. Sometimes a little fish roe is mixed with it, and further south cow's milk or butter. I have often seen it eaten without anything additional, though, as in the present instance, there was apparently enough other food on hand.

Corrosion of Lead Pipes. — The excerpt minutes of the British Institution of Civil Engineers contain the following abstract of a paper by Dr. G. von Knorre, printed in the *Gesundheits Ingenieur*: —

The author states that during the past year he has had many opportunities of examining specimens of lead-pipes which have corroded in walls, owing to the action of mortar or cement, or in the soil. The behavior of lead exposed to the influence of the air, water, lime-water, etc., is briefly discussed. In damp air a bright, freshly-cut surface of lead becomes speedily coated with a thin scale of gray oxide, which adheres closely to the metal and prevents further oxidation. At ordinary temperature, in dry air, and in inclosed vessels specially protected from moisture by the presence of sulphuric acid or calcined chloride of calcium, lead undergoes no change; lead, however, in a fine state of subdivision, is speedily converted into protoxide. Water that has been boiled and which is free from oxygen, if air is excluded, does not dissolve lead. Shaken up with lead in the presence of air, water even in two hours takes up about 1–10 per cent of the metal. Even a corroded surface is thus attacked, and when the metal is alternately exposed to the influence of air and water the action is more rapid. All waters do not dissolve lead with equal freedom; and the presence of small quantities of carbonic acid and of certain bicarbonates retards the action, while chlorides, nitrates, and decomposing organic substances intensify it. The experiments of Pattison Muir bearing on this subject are specially quoted, as are also the results recently obtained by Lunge and Venator. Besnou had found that lime-water powerfully attacked lead, and the author, who has made careful investigation of the influence of lime-water on lead, states that if air is excluded, bright lead shavings remain unaltered in the liquid, but that, on the admission of air, the metal is at once vigorously attacked. If lead is exposed to the action of lime-putty, lime-water, or lime-mortar, air being also present, a pale yellow deposit of oxide of lead becomes visible, even in the course of a day or two, the part of the lead nearest to the surface of the putty, the lime-water, or the mortar, being the most freely attacked, because it is there that the air has the most ready access. The chemical reaction is a very simple one, the hydrated oxide of lead, formed in the presence of oxygen and moisture, is dissolved in the lime-water, and partially precipitated as yellow oxide, free from water (it being a well-known fact that under certain conditions the yellow anhydrous oxide of lead is set free from solutions of oxide of lead in the presence of caustic alkalies or lime-water as yellow or red crystals, forming a red powder). Such a precipitate of oxide of lead might be formed upon lead-pipe in mortar or cement containing caustic lime in the presence of air and moisture. Two specimens of corroded lead-pipe proved on analysis to contain in the corroded parts 99.05 and 99.37 per cent. of oxide of lead. The mortar in which the latter sample was imbedded was extremely alkaline when tested with litmus paper, and contained a considerable quantity of caustic lime. In certain specimens of corroded pipes forwarded to the author from the Berlin water-works, the part of the lead attacked was white and not yellow, and it was proved that when caustic lime is not present the hydrated oxide may be decomposed by the carbonic acid gas contained in the atmosphere, in which case a white basic carbonate of lead takes the place of the yellow oxide. Some analyses are given which show that these corroded pipes had been thus attacked, but that varying amounts of sulphuric acid, nitric acid, and chlorides were also present. The author states that these latter ingredients appear to him to play an important part in the corrosive action, for, on the analogy of the old plan of manufacturing white lead with small quantities of acetic acid in dung heaps, in which process the acetic acid only acted as a carrier, the first formed acetate of lead being at once converted into carbonate of lead by the carbonic acid evolved, it can readily be seen that nitric acid would play a similar part. Indeed, both the nitrates and chlorides are known to act just as well as carriers as the acetates formerly employed in white-lead making. In impure soils, rich in decaying organic matters, lead would be speedily attacked were it not for the absence of oxygen.

In a discussion on the paper it was pointed out by Mr. Oesten that though lead may be thus readily attacked, the whole of the necessary conditions are rarely united, as out of 20,000 lead house-connections in the city of Berlin, he had only after careful search, extending over a period of twelve months, found eight instances of corroded lead-piping.

TRADE SURVEYS

The addition of over fifty million dollars to the currency supply during the past four months has had the two-fold effect of arresting a threatened monetary stringency and of making a bull movement in stocks a possibility. The assurance of continued assistance of this character and the possibility of gold importations, an enlarging export trade, and an enlarged distribution of merchandise and material, crude and finished, in domestic markets, all have helped to strengthen confidence which gave evidence during the Fall of needing strength. Advices from the leading men in a half-dozen of our great industries corroborates what has been herein previously stated as to future trade probabilities. Railroad-builders are now withholding orders for steel rails, expecting a decline from $34 to $32 or less. The syndicate will restrict production if buyers hold out much longer. The possibility of a drop to $30 is recognized. The lumber interests have distributed this season's stocks pretty thoroughly, and this fact will lead to the largest winter logging operations ever known. The probabilities are that lumber prices for the coming spring will be lower than for last spring. Hardwoods have sold remarkably well this season, and the consumption has been greatly expanded. Yellow-pine supplies will be considerably increased next year in North Atlantic markets, and sawing preparations are now being made for that purpose. In fact, the question may well be asked concerning the wisdom of constructing such a large number of saw and planing mills South and West. The parties immediately interested are, after all, the best judges, and as most of these improvements are made with actual cash there will be no after consequences. In this industry, as in many others, there is an effort to not overdo, and to keep near to actual demand. Extensive lumber areas have been opened-up this year in Canada and south of the Great Lakes, as well as in the Central and Gulf States. The tendency will be to overcrowd the lumber markets, a fact which is leading the lumber manufacturers and dealers in the Northwest to prepare for by more compact trade organization No possible combination of interest, however, can arrest the competition of manufacturers, and prices will very probably be kept even closer to cost-limit than this year. Southern hardwood manufacturers have greatly expanded their trade in the North, and hardwood timber territory convenient to rail facilities has sharply improved in value. Car, boat, ship, house, mill and railroad building requirements will, no doubt, be as urgent next year as this. The reports to hand recently from several of the larger wood-working machinery makers in the Western States lend strength to the position taken concerning future enterprise in Western house, shop, and factory building. This industry has been able to keep from one to two months' orders ahead. The small towns in the West are the most pushing, and within the past year a great many little industries have taken root there because of lower taxes, less liability to labor dictation, lower wages, cheaper living, and as low freight-rates as are to be had in large cities. This, though an apparently trifling matter, possesses features worth noting. It means the breaking up in a large measure of great industrial communities in the same line. Paper-mills, cloth-mills, hosiery-factories, tool and hardware establishments are to be found in Western States where five years ago the possibility was not dreamed of. This tendency is exhibited in late commercial summaries which show that for one month, October, the volume of clearing-house returns in thirty-eight cities was $137,000,000 less than for October, 1886; but leaving out three Atlantic-coast cities it shows a gain of $133,000,000; that is to say, the empire of the Ohio and Mississippi Valleys is becoming more and more independent of Eastern connections in finances, manufactures, and in jobbing and distributing facilities. The builders of New England, so far as individual opinions have been expressed, are anticipating even greater activity in house and factory building next year. The satisfactory dividends of so many textile-manufacturing corporations have led to projections of additional mill room and greater motive power. House-building will grow apace. If there ever was any uncertainty as to the ability of New England textile manufacturing interests to maintain their competative supremacy as against other sections, the progress made during the past year has set such uncertainties aside. Capital has been strengthened by liberal returns. Large investments will be made in all six States. What were regarded as threatening evils two or more years ago have disappeared. Adverse legislation has not taken place. Employés have not accepted the frequent pays authorized by law. Arbitrative methods provided by law have not been found as necessary as was imagined. The low margins of two or three years ago have disappeared, and greater markets have loomed up to encourage enterprise. What is true of New England manufacturing interests is true of other sections. Unobserved factors are developing into importance. Demands are arising which are stimulating a higher order of mechanical and designing talent. The consumptive capacity of the people is enlarging, and old rules of action for traders and manufacturers are rules no longer. Hence those who are endeavoring to predict dulness next month or next year, or higher or lower prices, or expanding or contracting trade, or abundant or scarce money, or the use of speculative or legitimate values, are talking about matters too far beyond their ken to be listened to with seriousness. The material progress of the past decade has been a greater surprise to the people who have made it than to the outside world, and the progress of the next decade in the increase of comforts among the masses of the people will be even more surprising. This will be effected through cheapness, but there will be no attendant bankruptcy. All the agencies at work are pointing to lower prices, cheaper commodities, lower duties, less interest, more money, greater industrial and trade organization, and a greater control over the forces of production and distribution.